

ADCO	APPROVED FOR CONSTRUCTION
	Signatory : 
	Date : 14/12/2014.

شركة أبوظبي للعمليات البترولية البرية (أدكو)
 Abu Dhabi Company for Onshore Oil Operations (ADCO)

Approved For Construction
 Trans. No. CTA/15606.02/EC10870/AE-241/ 12235
 Date: 14/12/2014.

PROJECT NO.: P11569

EPC FOR BAB FAR NORTH CO2 INJECTION PILOT PROJECT

Document No. 11-99-40-1605

**INSTRUMENT DATASHEET :
 ELECTRONIC TRANSMITTER (FT, PT & DPT)**

1	01-Dec-2014	YANN	PARP/VERA	MEAN/MATJ	Issued for Purchase
B	30-Oct-2014	YANN	KULA/PARP	MEAN/MATJ	Issued for Approval
A	26-Sep-2014	YANN	KULA/PARP	MEAN/MATJ	Issued for Review
REV	DATE	ORIGINATOR	REVIEWED	APPROVED	DESCRIPTION

THIS DOCUMENT IS INTENDED FOR USE BY ADCO AND ITS NOMINATED CONSULTANTS, CONTRACTORS, MANUFACTURERS AND SUPPLIERS

ORIGINATOR:



WorleyParsons
 resources & energy
 P. O. Box No. 44169, Abu Dhabi, UAE

ALSA JOB No. AE-241

Contract No: 15606.02/EC10870



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NOTES

1. VTA means "Vendor to Specify/Advise" , NA refers to "Not Applicable" and TBA means "To Be Advise".
2. This datasheet shall be read in conjunction with the following documents:

11.99.39.1605	Specification for Pressure and Differential Pressure Transmitters
11.99.37.1601	Specification for Painting and Coating of New Equipment
3. All the Transmitters shall conform to IEC61000 for Electro Magnetic Compatiblity (EMI/RFI).
4. Transmitter Upper Range Limit (URL) shall cover the design pressure on the datasheets.
5. The transmitter Stud bolt material shall be ASTM A320-L7M/A194-7M (coated with Xylan-1070 or approved equivalent)
6. Vendor shall supply Universal HART Handheld Communicator for Configuration of HART transmitters offered. It shall be Intrinsically Safe Certified for use in Hazardous area classification. It shall be possible to perform online and remote configuration / Calibration and diagnostics of the transmitter via this HART Handheld Communicator.
7. Vendor shall provide spare cable entries for transmitters with dual certified (EEx-d/EEx-e) plugs.
8. Transmitter, valve manifold and accessories shall be designed to meet the maximum static design pressure as indicated in datasheet.
9. Sunshade and Cable Glands shall be supplied by others.
10. All the Transmitters shall meet following performance specifications:-
 - Stability : 0.125% URL
 - Temperature effect : 0.025% of URL + 0.125% span per 28°C change in ambient temperature.
11. All the transmitters shall be supplied with SS tag plate. The tag plates shall be in accordance with ADCO Engineering Specification – Tag plates for field and Indoor Instruments – ES 30.99.00.0001.
12. All wetted parts of Transmitters shall conform to NACE MR-01-75(Latest Edition) where indicated in Datasheet.
13. All the Transmitters shall be supplied with integral Local LCD Display with configurable engineering units.
14. *Transmitters related to safety functions shall have SIL-2 Certification as a minimum.*

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General Data	1	Tag Number			11-18-PT -0101-01				
	2	Service			East Flank Well Head Flowline Pressure				
	3	P&ID No.	Pip. class		P11569.11.18.08.1628		256620-X		
	4	Line Number	Equipment No		6"-PO-8385-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Produced Oil	781.1	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		34 bar-g	59.5 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	-49 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 50 bar Gage		
	13	Zero adj.	Span adj.		External		External		
	14	OVERRANGE prot.	Load		Yes		600 ohm		
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes		
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA		VTA		
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent		
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone		
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al		
	25	Vent	Drain		NA		NA		
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)		
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65		EEx(ia)		
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		NA		N/A		
	34	Diaphragm(s) material			NA				
	35	Housing material			NA				
	36	Fill Fluid	Flushing		NA		NA		
	37	Capillary material			NA				
	38	Capillary type	Capillary length		NA		NA		
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

INSTRUMENT SPECIFICATION

Pressure Transmitter

شركة أبوظبي للعمليات البترولية (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons ALSA
Engineering & Construction LLC

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General Data	1	Tag Number			11-18-PT -0101-02				
	2	Service			North Flank Well Head Flowline Pressure				
	3	P&ID No.	Pip. class		P11569.11.18.08.1628	256620-X			
	4	Line Number	Equipment No		6"-PO-8381-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Production Fluid	782	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		34 bar-g	59.5 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	-49 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 50	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply	24 Vdc(2 wire)						
	17	Output signal	4 - 20 mA(HART)						
	18	Element type	Diaphragm						
	19	Material	Hastelloy C						
	20	Body rating	VTA						
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket	2" SS Pipe Mounting						
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating	NA						
	33	Seal type	Ext. length	N/A		N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing	N/A		N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length	NA		NA			
	39								
Accessories	40	Type	Size & rating	With 2 - Way Manifold		1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale	Internal		VTA			
Purchase	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

							INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status		ADCO Doc.No.: 11.99.40.1605	Code:1303
							Rev.: 1	

شركة أبوظبي للعمليات البحرينية (أدو)
Abu Dhabi Company for Offshore Oil Operations (ADCO)

 
WorleyParsons ALSA
Engineering & Construction CO LLC

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General Data	1	Tag Number			11-18-PT -0200-16							
	2	Service			M-0101 Manifold to HIPPS							
	3	P&ID No.	Pip. class		P11569.11.18.08.1629		256620-X					
	4	Line Number	Equipment No		10"-PO-8382-256620-X							
	5	SIL	<input type="checkbox"/> SIL =N.A.									
Operating Conditions	6	Fluid	Fluid Density		Produced Oil		781.9	kg/m ³				
	7	Sour Service	Special Conditions		Yes							
	8	Op. press.	Oper. temp.		34 bar-g		59.5 °C					
	9	Design press.	Min.	Max.			278 bar-g					
	10	Design temp.	Min.	Max.	-49 °C		85 °C					
Transmitter	11	Instrument type			Electronic Smart Transmitter							
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 50	bar Gage				
	13	Zero adj.	Span adj.		External		External					
	14	Ovrage prot.	Load		Yes		600 ohm					
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes					
	16	Power supply			24 Vdc(2 wire)							
	17	Output signal			4 - 20 mA(HART)							
	18	Element type			Diaphragm							
	19	Material			Hastelloy C							
	20	Body rating			VTA							
	21	Op. temp. limits	Amb. temp effect		VTA		VTA					
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone					
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al					
	25	Vent	Drain		NA		NA					
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)					
	27	Cable gland			No							
	28	Mounting bracket			2" SS Pipe Mounting							
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3							
	30	Ingress Protection	Certification		IP65		EEx(ia)					
	31											
Diaphragm Seal	32	Size & rating			NA							
	33	Seal type	Ext. length		N/A		N/A					
	34	Diaphragm(s) material			N/A							
	35	Housing material			N/A							
	36	Fill Fluid	Flushing		N/A		N/A					
	37	Capillary material			N/A							
	38	Capillary type	Capillary length		NA		NA					
	39											
Manifold	40	Type	Size & rating		With 2 - Way Manifold		1/2" NPT-F					
	41	Body material			SS316L							
	42	Trim material			Hastelloy C							
Accessories	43	LCD Display	Display scale		Internal		VTA					
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.		ATEX					
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156							
	46											
Purchase	47	Manufacturer			VTA							
	48	Model			TBA							
	49	Client Reference	Requisition No.	Item								
	50	Material Code										

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	شركة أبوظبي للعمليات البترولية المحدودة (أدنوك) Abu Dhabi Company for Onshore Oil Operations (ADCO)
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		WorleyParsons
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		ALSA Engineering & Construction Co. L.L.C.
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						Code:1303	Rev.: 1

General Data	1	Tag Number			11-71-DPT -1046J -01							
	2	Service	SIL		CO2 Inj. Line for Injection Well 1046 strainer DP <input type="checkbox"/> SIL							
	3	P&ID No.	Pip. class		P11569.11.71.08.1611 251011-20-X							
	4	Line Number	Equipment No		6"-CG-0679-251011-20-X-H							
Operating Conditions	5	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³					
	6	Sour Service	Special Conditions		Yes							
	7	Op. press.	Oper. temp.		204 bar-g		58 °C					
	8	Design press.	Min.	Max.			278 bar-g					
	9	Design temp.	Min.	Max.	-19 °C		85 °C					
	10	Op. Diff. Pressure			0.5 bar							
	11	Instrument type			Electronic Smart Transmitter							
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 1	bar					
	13	Zero adj.	Span adj.		External	External						
	14	Overrange prot.	RFI protection		Yes	Yes						
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA						
	16	Power supply			24 Vdc(2 wire)							
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm						
	18	Pneumatic output signal			NA							
	19	Element type	Material		Diaphragm	Hastelloy C						
	20	Body rating			VTA							
	21	Op. temp. limits			VTA							
	22	Process flange material			NA							
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone						
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al						
	25	Vent	Drain		NA	NA						
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)						
	27	Cable gland			No							
	28	Mounting bracket			2" SS Pipe Mounting							
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3							
	30	Ingress Protection	Certification		IP65	EEx(ia)						
	31											
Diaphragm Seal	32	Quantity	Size & rating		NA	NA						
	33	Seal type	Ext. length		N/A	N/A						
	34	Diaphragm(s) material			N/A							
	35	Upper housing material			N/A							
	36	Lower housing material			NA							
	37	Fill Fluid	Flushing		N/A	N/A						
	38	Capillary material			N/A							
	39	Capillary type	Capillary length		NA	NA						
Manifold	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F						
	41	Body material			SS316L							
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent						
Accessories	43	LCD Display	Display scale		Internal	VTA						
	44	Air set regulator			No							
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX						
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156							
Purchase	47	Manufacturer			VTA							
	48	Model			TBA							
	49	Client Reference	Requisition No.	Item								
	50	Material Code										

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Diff. Pressure Transmitter	
	1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
	B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
						ADCO Doc.No.: 11.99.40.1605	
						Code:1304	Rev.: 1

General Data	1	Tag Number			11-71-DPT -1046H -02				
	2	Service	SIL		Water Injection Line for 1046 strainer DP				
	3	P&ID No.	Pip. class		P11569.11.71.08.1611				
	4	Line Number	Equipment No		4"-IW-3140-151440-Y				
Operating Conditions	5	Fluid	Fluid Density		Water	1172	kg/m ³		
	6	Sour Service	Special Conditions		Yes				
	7	Op. press.	Oper. temp.		141.5 bar-g	75 °C			
	8	Design press.	Min.	Max.		255 bar-g			
	9	Design temp.	Min.	Max.	0 °C	150 °C			
	10	Op. Diff. Pressure			0.5 bar				
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 1	bar		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	RFI protection		Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal			NA				
	19	Element type	Material		Diaphragm	Hastelloy C			
	20	Body rating			VTA				
	21	Op. temp. limits			VTA				
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
Diaphragm Seal	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
	32	Quantity	Size & rating		NA	NA			
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
Manifold	35	Upper housing material			N/A				
	36	Lower housing material			NA				
	37	Fill Fluid	Flushing		N/A	N/A			
	38	Capillary material			N/A				
Accessories	39	Capillary type	Capillary length		NA	NA			
	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent			
Purchase	43	LCD Display	Display scale		Internal	VTA			
	44	Air set regulator			No				
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Diff. Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Abu Dhabi Company for Onshore Oil Operations (ADCO) WorleyParsons ALSA	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
ADCO Doc.No.: 11.99.40.1605						Code:1304	Rev.: 1

General Data	1	Tag Number			11-71-DPT -1046J -03				
	2	Service	SIL	DP Across SDV-1046J-01 / SDV-1046J-02 for Wel			<input checked="" type="checkbox"/> SIL		
	3	P&ID No.	Pip. class	P11569.11.71.08.1611		251011-20-X			
	4	Line Number	Equipment No	2"-CG-0679-251011-20-X-H					
Operating Conditions	5	Fluid	Fluid Density	Dense Phase CO2	997	kg/m ³			
	6	Sour Service	Special Conditions	Yes					
	7	Op. press.	Oper. temp.		204 bar-g	58 °C			
	8	Design press.	Min.	Max.		278 bar-g			
	9	Design temp.	Min.	Max.	-19 °C	85 °C			
	10	Op. Diff. Pressure		5 bar					
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	0 To 10	bar			
	13	Zero adj.	Span adj.	External	External				
	14	Overrange prot.	RFI protection	Yes	Yes				
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff	±0.1% of Calibrated Span	VTA				
	16	Power supply		24 Vdc(2 wire)					
	17	Output signal	Load	4 - 20 mA(HART)	600 ohm				
	18	Pneumatic output signal			NA				
	19	Element type	Material	Diaphragm	Hastelloy C				
	20	Body rating		VTA					
	21	Op. temp. limits		VTA					
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone				
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al				
	25	Vent	Drain	NA	NA				
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)				
	27	Cable gland		No					
	28	Mounting bracket		2" SS Pipe Mounting					
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification	IP65	EEx(ia)				
	31								
Diaphragm Seal	32	Quantity	Size & rating	NA	NA				
	33	Seal type	Ext. length	N/A	N/A				
	34	Diaphragm(s) material			N/A				
	35	Upper housing material			N/A				
	36	Lower housing material			N/A				
	37	Fill Fluid	Flushing	N/A	N/A				
	38	Capillary material		N/A					
	39	Capillary type	Capillary length	NA	NA				
	40	Type	Size & rating	With 5 - Way Manifold	1/2" NPT-F				
Manifold	41	Body material		SS316L					
	42	Trim material	Packing material	Hastelloy C	Graphlock/Equivalent				
	43	LCD Display	Display scale	Internal	VTA				
	44	Air set regulator		No					
Accessories	45	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX				
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	47	Manufacturer			VTA				
Purchase	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION Diff. Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No.	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1304 Rev.: 1

شركة أبوظبي للعمليات البترولية الجوية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA
Engineering & Construction LLC

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General Data	1	Tag Number			11-71-DPT -1053H -02				
	2	Service	SIL		Water Injection Line for Well 1053 strainer DP		<input type="checkbox"/> SIL		
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	151440Y			
	4	Line Number	Equipment No		4"-IW-3143-151440-Y				
Operating Conditions	5	Fluid	Fluid Density		Water	1172	kg/m ³		
	6	Sour Service	Special Conditions		Yes				
	7	Op. press.	Oper. temp.		141.5 bar-g		75 °C		
	8	Design press.	Min.	Max.			255 bar-g		
	9	Design temp.	Min.	Max.	0 °C		150 °C		
	10	Op. Diff. Pressure			0.5 bar				
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 1	bar		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	RFI protection		Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal			NA				
	19	Element type	Material		Diaphragm	Hastelloy C			
	20	Body rating			VTA				
	21	Op. temp. limits			VTA				
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Quantity	Size & rating		NA	NA			
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Upper housing material			N/A				
	36	Lower housing material			NA				
	37	Fill Fluid	Flushing		N/A	N/A			
	38	Capillary material			N/A				
Manifold	39	Capillary type	Capillary length		NA	NA			
	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent			
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Air set regulator			No				
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Diff. Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
ADCO Doc.No.: 11.99.40.1605						Code:1304	Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدكو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA

Engineering Services Co. LLC

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General Data	1	Tag Number			11-71-DPT -1053J -01				
	2	Service	SIL		CO2 Injection Line for Well 1053 strainer DP		<input type="checkbox"/> SIL		
	3	P&ID No.	Pip. class		P11569.11.71.08.1612		251011-20-X		
	4	Line Number	Equipment No		6"-CG-0635-251011-20-X-H				
Operating Conditions	5	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	6	Sour Service	Special Conditions		Yes				
	7	Op. press.	Oper. temp.		204 bar-g		58 °C		
	8	Design press.	Min.	Max.			278 bar-g		
	9	Design temp.	Min.	Max.	-19 °C		85 °C		
	10	Op. Diff. Pressure			0.5 bar				
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0	To 1 bar		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	RFI protection		Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal			NA				
	19	Element type	Material		Diaphragm	Hastelloy C			
	20	Body rating			VTA				
	21	Op. temp. limits			VTA				
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
Diaphragm Seal	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
	32	Quantity	Size & rating		NA	NA			
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
Manifold	35	Upper housing material			N/A				
	36	Lower housing material			NA				
	37	Fill Fluid	Flushing		N/A	N/A			
	38	Capillary material			N/A				
Accessories	39	Capillary type	Capillary length		NA	NA			
	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent			
Purchase	43	LCD Display	Display scale		Internal	VTA			
	44	Air set regulator			No				
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION Diff. Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No.	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1304
						Rev.: 1

شركة أبوظبي للعمليات الجوفية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons ALSA
Engineering & Construction Co. L.L.C.

Sheet 13 of 73

General Data	1	Tag Number			11-71-DPT -1053J -03				
	2	Service	SIL		Diff Pressure across SDV-1053J-01 / SDV-1053J-C				
	3	P&ID No.	Pip. class		P11569.11.71.08.1612		251011-20-X		
	4	Line Number	Equipment No		2"-CG-0635-251011-20-X-H				
Operating Conditions	5	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	6	Sour Service	Special Conditions		Yes				
	7	Op. press.	Oper. temp.		204 bar-g		58 °C		
	8	Design press.	Min.	Max.			278 bar-g		
	9	Design temp.	Min.	Max.	-19 °C		85 °C		
	10	Op. Diff. Pressure			5 bar				
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 10	bar		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	RFI protection		Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal			NA				
	19	Element type	Material		Diaphragm	Hastelloy C			
	20	Body rating			VTA				
	21	Op. temp. limits			VTA				
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Quantity	Size & rating		NA	NA			
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Upper housing material			N/A				
	36	Lower housing material			NA				
	37	Fill Fluid	Flushing		N/A	N/A			
	38	Capillary material			N/A				
	39	Capillary type	Capillary length		NA	NA			
Manifold	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent			
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Air set regulator			No				
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION		WorleyParsons	ALSA
						Diff. Pressure Transmitter			
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE				
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL				
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW				
ADCO Doc.No.: 11.99.40.1605						Code:1304		Rev.: 1	

General Data	1	Tag Number			11-71-DPT -1054H -02					
	2	Service	SIL		Water Injection Line for Well 1054 strainer DP					
	3	P&ID No.	Pip. class		P11569.11.71.08.1614					
	4	Line Number	Equipment No		4"-IW-3137-151440-Y					
Operating Conditions	5	Fluid	Fluid Density		Water	1172	kg/m ³			
	6	Sour Service	Special Conditions		Yes					
	7	Op. press.	Oper. temp.		141.5 bar-g		75 °C			
	8	Design press.	Min.	Max.			255 bar-g			
	9	Design temp.	Min.	Max.	0 °C		150 °C			
	10	Op. Diff. Pressure			0.5 bar					
Diff. press. Transmitter	11	Instrument type			Electronic Smart Transmitter					
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0	To	1 bar		
	13	Zero adj.	Span adj.		External	External				
	14	Overrange prot.	RFI protection		Yes	Yes				
	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA				
	16	Power supply			24 Vdc(2 wire)					
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm				
	18	Pneumatic output signal			NA					
	19	Element type	Material		Diaphragm	Hastelloy C				
	20	Body rating			VTA					
	21	Op. temp. limits			VTA					
	22	Process flange material			NA					
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone				
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al				
	25	Vent	Drain		NA	NA				
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)				
	27	Cable gland			No					
	28	Mounting bracket			2" SS Pipe Mounting					
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3					
	30	Ingress Protection	Certification		IP65	EEx(ia)				
	31									
Diaphragm Seal	32	Quantity	Size & rating		NA	NA				
	33	Seal type	Ext. length		N/A	N/A				
	34	Diaphragm(s) material			N/A					
	35	Upper housing material			N/A					
	36	Lower housing material			NA					
	37	Fill Fluid	Flushing		N/A		N/A			
Manifold	38	Capillary material			N/A					
	39	Capillary type	Capillary length		NA		NA			
	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F				
Accessories	41	Body material			SS316L					
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent				
	43	LCD Display	Display scale		Internal	VTA				
	44	Air set regulator			No					
Purchase	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX				
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156					
	47	Manufacturer			VTA					
	48	Model			TBA					
	49	Client Reference	Requisition No.	Item						
	50	Material Code								

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	INSTRUMENT SPECIFICATION	
							Diff. Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
							Sheet 15	of 73
							Code:1304	Rev.: 1

شركة أبوظبي للعمليات النيلية البرية (أدنوك)
Abu Dhabi Company for Offshore Oil Operations (ADCO)

WorleyParsons ALSA
Engineering & Construction LLC

General Data	1	Tag Number			11-71-DPT -1054J -01							
	2	Service	SIL		CO2 Injection Line for Well 1054 strainer DP			<input type="checkbox"/> SIL				
	3	P&ID No.	Pip. class		P11569.11.71.08.1614		251011-20-X					
	4	Line Number	Equipment No		6"-CG-0613-251011-20-X-H							
Operating Conditions	5	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³					
	6	Sour Service	Special Conditions		Yes							
	7	Op. press.	Oper. temp.		204 bar-g		58 °C					
	8	Design press.	Min.	Max.			278 bar-g					
	9	Design temp.	Min.	Max.	-19 °C		85 °C					
	10	Op. Diff. Pressure			0.5 bar							
	11	Instrument type			Electronic Smart Transmitter							
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 1	bar					
	13	Zero adj.	Span adj.		External	External						
	14	Overrange prot.	RFI protection		Yes	Yes						
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA						
	16	Power supply			24 Vdc(2 wire)							
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm						
	18	Pneumatic output signal			NA							
	19	Element type	Material		Diaphragm	Hastelloy C						
	20	Body rating			VTA							
	21	Op. temp. limits			VTA							
	22	Process flange material			NA							
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone						
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al						
	25	Vent	Drain		NA	NA						
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)						
	27	Cable gland			No							
	28	Mounting bracket			2" SS Pipe Mounting							
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3							
	30	Ingress Protection	Certification		IP65	EEx(ia)						
	31											
Diaphragm Seal	32	Quantity	Size & rating		NA	NA						
	33	Seal type	Ext. length		N/A	N/A						
	34	Diaphragm(s) material			N/A							
	35	Upper housing material			N/A							
	36	Lower housing material			NA							
	37	Fill Fluid	Flushing		N/A	N/A						
	38	Capillary material			N/A							
Manifold	39	Capillary type	Capillary length		NA	NA						
	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F						
	41	Body material			SS316L							
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent						
Accessories	43	LCD Display	Display scale		Internal	VTA						
	44	Air set regulator			No							
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX						
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156							
Purchase	47	Manufacturer			VTA							
	48	Model			TBA							
	49	Client Reference	Requisition No.	Item								
	50	Material Code										

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Diff. Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Sh. Abu Dhabi Company for Onshore Oil Operations (ADCO)	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	WorleyParsons	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	ALSA	
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General Data	1	Tag Number			11-71-DPT -1054J -03				
	2	Service	SIL		Diff. Pressure across SDV-1054J-01/SDV-1054J-02	<input checked="" type="checkbox"/>	SIL		
	3	P&ID No.	Pip. class		P11569.11.71.08.1614	251011-20-X			
	4	Line Number	Equipment No		2"-CG-0613-251011-20-X-H				
Operating Conditions	5	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	6	Sour Service	Special Conditions		Yes				
	7	Op. press.	Oper. temp.		204 bar-g		58 °C		
	8	Design press.	Min.	Max.			278 bar-g		
	9	Design temp.	Min.	Max.	-19 °C		85 °C		
	10	Op. Diff. Pressure			5 bar				
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 10	bar		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	RFI protection		Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal			NA				
	19	Element type	Material		Diaphragm	Hastelloy C			
	20	Body rating			VTA				
	21	Op. temp. limits			VTA				
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Quantity	Size & rating		NA	NA			
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Upper housing material			N/A				
	36	Lower housing material			NA				
	37	Fill Fluid	Flushing		N/A	N/A			
	38	Capillary material			N/A				
Manifold	39	Capillary type	Capillary length		NA	NA			
	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
Accessories	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent			
	43	LCD Display	Display scale		Internal	VTA			
	44	Air set regulator			No				
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
Purchase	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Diff. Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
ADCO Doc.No.: 11.99.40.1605						Code:1304	Rev.: 1

Sh. Abu Dhabi Company for Onshore Oil Operations (ADCO)



Sh. Abu Dhabi Company for Onshore Oil Operations (ADCO)



WorleyParsons



Engineering & Construction LLC

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General Data	1	Tag Number			11-71-DPT -1055H -02				
	2	Service	SIL		Water Injection Line for Well 1055 strainer DP				
	3	P&ID No.	Pip. class		P11569.11.71.08.1613	151440Y			
	4	Line Number	Equipment No		4"-IW-3134-151440-Y				
Operating Conditions	5	Fluid	Fluid Density		Water	1172	kg/m ³		
	6	Sour Service	Special Conditions		Yes				
	7	Op. press.	Oper. temp.		141.5 bar-g	75 °C			
	8	Design press.	Min.	Max.	255 bar-g				
	9	Design temp.	Min.	Max.	0 °C	150 °C			
	10	Op. Diff. Pressure			0.5 bar				
	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	0 To 1	bar		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	RFI protection		Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff		±0.1% of Calibrated Span	VTA			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal	Load		4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal			NA				
	19	Element type	Material		Diaphragm	Hastelloy C			
	20	Body rating			VTA				
	21	Op. temp. limits			VTA				
	22	Process flange material			NA				
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Quantity	Size & rating		NA	NA			
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Upper housing material			N/A				
	36	Lower housing material			NA				
	37	Fill Fluid	Flushing		N/A	N/A			
	38	Capillary material			N/A				
	39	Capillary type	Capillary length		NA	NA			
Manifold	40	Type	Size & rating		With 5 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent			
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Air set regulator			No				
	45	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No.	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Diff. Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
						ADCO Doc.No.: 11.99.40.1605	Code:1304
							Rev.: 1

شركة أبوظبي للعمليات البترولية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons
Engineering Construction Co., L.L.C.

 ALSA
Advanced Lubricants Services Co. L.L.C.

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General Data	1	Tag Number		11-71-DPT -1055J -01				
	2	Service	SIL	CO2 Injection Line for Well 1055 strainer DP				
	3	P&ID No.	Pip. class	P11569.11.71.08.1613	251011-20-X			
	4	Line Number	Equipment No	6"-CG-0605-251011-20-X-H				
Operating Conditions	5	Fluid	Fluid Density		Dense Phase CO2	997 kg/m³		
	6	Sour Service	Special Conditions		Yes			
	7	Op. press.	Oper. temp.		204 bar-g	58 °C		
	8	Design press.	Min.	Max.		278 bar-g		
	9	Design temp.	Min.	Max.	-19 °C	85 °C		
	10	Op. Diff. Pressure		0.5 bar				
	11	Instrument type			Electronic Smart Transmitter			
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	0 To 1	bar		
	13	Zero adj.	Span adj.	External	External			
	14	Overrange prot.	RFI protection	Yes	Yes			
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff	±0.1% of Calibrated Span	VTA			
	16	Power supply		24 Vdc(2 wire)				
	17	Output signal	Load	4 - 20 mA(HART)	600 ohm			
	18	Pneumatic output signal		NA				
	19	Element type	Material	Diaphragm	Hastelloy C			
	20	Body rating		VTA				
	21	Op. temp. limits		VTA				
	22	Process flange material		NA				
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone			
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain	NA	NA			
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland		No				
	28	Mounting bracket		2" SS Pipe Mounting				
	29	Area classification		Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification	IP65	EEx(ia)			
	31							
Diaphragm Seal	32	Quantity	Size & rating	NA	NA			
	33	Seal type	Ext. length	N/A	N/A			
	34	Diaphragm(s) material		N/A				
	35	Upper housing material		N/A				
	36	Lower housing material		N/A				
	37	Fill Fluid	Flushing	N/A	N/A			
	38	Capillary material		N/A				
	39	Capillary type	Capillary length	NA	NA			
	40	Type	Size & rating	With 5 - Way Manifold	1/2" NPT-F			
Manifold	41	Body material		SS316L				
	42	Trim material	Packing material	Hastelloy C	Graphlock/Equivalent			
Accessories	43	LCD Display	Display scale	Internal	VTA			
	44	Air set regulator		No				
	45	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX			
	46	NACE Requirement		Required as per NACE MR 01-75/ISO 15156				
Purchase	47	Manufacturer		VTA				
	48	Model		TBA				
	49	Client Reference	Requisition No.	Item				
	50	Material Code						

Notes: See notes

						INSTRUMENT SPECIFICATION Diff. Pressure Transmitter	شركة أبوظبي للعمليات الساحلية (أدنوك) Abu Dhabi Company for Offshore Oil Operations (ADCO)	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		 WorleyParsons	 ALSA
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No.	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605		Code:1304 Rev.: 1

General Data	1	Tag Number			11-71-DPT -1055J -03						
	2	Service	SIL	Diff. Pressure across SDV-1055J-01/SDV-1055J-02				<input type="checkbox"/> SIL			
	3	P&ID No.	Pip. class	P11569.11.71.08.1613				251011-20-X			
	4	Line Number	Equipment No	2"-CG-0605-251011-20-X-H							
Operating Conditions	5	Fluid	Fluid Density	Dense Phase CO2	997	kg/m ³					
	6	Sour Service	Special Conditions	Yes							
	7	Op. press.	Oper. temp.	204 bar-g	58 °C						
	8	Design press.	Min. Max.		278 bar-g						
	9	Design temp.	Min. Max.	-19 °C	85 °C						
	10	Op. Diff. Pressure			5 bar						
	11	Instrument type			Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	0	To	10	bar			
	13	Zero adj.	Span adj.	External	External						
	14	Overrange prot.	RFI protection	Yes	Yes						
Diff. press. Transmitter	15	Accuracy	Amb. temp. eff	±0.1% of Calibrated Span	VTA						
	16	Power supply			24 Vdc(2 wire)						
	17	Output signal	Load	4 - 20 mA(HART)	600 ohm						
	18	Pneumatic output signal			NA						
	19	Element type	Material	Diaphragm	Hastelloy C						
	20	Body rating			VTA						
	21	Op. temp. limits			VTA						
	22	Process flange material			NA						
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone						
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al						
	25	Vent	Drain	NA	NA						
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)						
	27	Cable gland		No							
	28	Mounting bracket			2" SS Pipe Mounting						
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification	IP65	EEx(ia)						
	31										
Diaphragm Seal	32	Quantity	Size & rating	NA	NA						
	33	Seal type	Ext. length	N/A	N/A						
	34	Diaphragm(s) material			N/A						
	35	Upper housing material			N/A						
	36	Lower housing material			NA						
	37	Fill Fluid	Flushing	N/A	N/A						
	38	Capillary material			N/A						
Manifold	39	Capillary type	Capillary length	NA	NA						
	40	Type	Size & rating	With 5 - Way Manifold	1/2" NPT-F						
	41	Body material		SS316L							
Accessories	42	Trim material	Packing material	Hastelloy C	Graphlock/Equivalent						
	43	LCD Display	Display scale	Internal	VTA						
	44	Air set regulator		No							
	45	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX						
Purchase	46	NACE Requirement			Required as per NACE MR 01-75/ISO 15156						
	47	Manufacturer			VTA						
	48	Model			TBA						
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Diff. Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No.	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1304 Rev.: 1

General Data	1	Tag Number			11-71-PT -1046H -17				
	2	Service			Water Injection to well 1046				
	3	P&ID No.	Pip. class		P11569.11.71.08.1611	151440Y			
	4	Line Number	Equipment No		4"-IW-3140-151440-Y				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		141.5 bar-g	75 °C			
	9	Design press.	Min.	Max.		255 bar-g			
	10	Design temp.	Min.	Max.	0 °C	150 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 200	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات الشاطئية المعرفة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons
Engineering & Construction Co. LLC

ALSA
Engineering & Construction Co. LLC

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General Data	1	Tag Number			11-71-PT -1046H -19							
	2	Service			Water Injection to well 1046							
	3	P&ID No.	Pip. class		P11569.11.71.08.1611	151440Y						
	4	Line Number	Equipment No		4"-IW-3140-151440-Y							
	5	SIL	<input type="checkbox"/> SIL =N.A.									
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³					
	7	Sour Service	Special Conditions		Yes							
	8	Op. press.	Oper. temp.		141.5 bar-g		75 °C					
	9	Design press.	Min.	Max.			255					
	10	Design temp.	Min.	Max.	0 °C		150 °C					
Transmitter	11	Instrument type			Electronic Smart Transmitter							
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 200	bar Gage				
	13	Zero adj.	Span adj.		External		External					
	14	Overrange prot.	Load		Yes		600 ohm					
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes					
	16	Power supply			24 Vdc(2 wire)							
	17	Output signal			4 - 20 mA(HART)							
	18	Element type			Diaphragm							
	19	Material			Hastelloy C							
	20	Body rating			VTA							
	21	Op. temp. limits	Amb. temp effect		VTA		VTA					
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone					
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al					
	25	Vent	Drain		NA		NA					
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)					
	27	Cable gland			No							
	28	Mounting bracket			2" SS Pipe Mounting							
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3							
	30	Ingress Protection	Certification		IP65		EEx(ia)					
	31											
Diaphragm Seal	32	Size & rating			NA							
	33	Seal type	Ext. length		N/A		N/A					
	34	Diaphragm(s) material			N/A							
	35	Housing material			N/A							
	36	Fill Fluid	Flushing		N/A		N/A					
	37	Capillary material			N/A							
	38	Capillary type	Capillary length		NA		NA					
Manifold	39											
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F						
	41	Body material			SS316L							
Accessories	42	Trim material			Hastelloy C							
	43	LCD Display	Display scale		Internal	VTA						
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX						
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156							
Purchase	46											
	47	Manufacturer			VTA							
	48	Model			TBA							
	49	Client Reference	Requisition No.	Item								
	50	Material Code										

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	ش.أبو ظبي لل操縦機 البحري (أدكو) Abu Dhabi Company for Offshore Oil Operations (ADCO)
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

General Data	1	Tag Number			11-71-PT -1046J -02		
	2	Service			CO2 injection to Well 1046		
	3	P&ID No.	Pip. class		P11569.11.71.08.1611	251011-20-X	
	4	Line Number	Equipment No		6"-CG-0679-251011-20-X-H		
	5	SIL			<input checked="" type="checkbox"/> SIL	SIL 2	
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 300 bar Gage
	13	Zero adj.	Span adj.		External	External	
	14	Overrange prot.	Load		Yes	600 ohm	
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes	
	16	Power supply			24 Vdc(2 wire)		
	17	Output signal			4 - 20 mA(HART)		
	18	Element type			Diaphragm		
	19	Material			Hastelloy C		
	20	Body rating			VTA		
	21	Op. temp. limits	Amb. temp effect		VTA	VTA	
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone	
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain		NA	NA	
26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)		
27	Cable gland			No			
28	Mounting bracket			2" SS Pipe Mounting			
29	Area classification			Zone 1, Gas group IIB, Temperature Class T3			
30	Ingress Protection	Certification		IP65	EEx(ia)		
31							
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length		NA	N/A	
	34	Diaphragm(s) material			N/A		
	35	Housing material			N/A		
	36	Fill Fluid	Flushing		NA	N/A	
	37	Capillary material			NA		
	38	Capillary type	Capillary length		NA	NA	
	39						
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F	
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale		Internal	VTA	
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

							INSTRUMENT SPECIFICATION Pressure Transmitter				
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE						
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL						
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW						
Rev No	Date	By	Chk	Appr	Status						
ADCO Doc.No.: 11.99.40.1605											
Code:1303											
Rev.: 1											

شركة أبوظبي للعمليات الشيفونية (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA
Engineering Construction L.L.C.

Sheet 23 of 73

General Data	1	Tag Number		11-71-PT -1046J -35							
	2	Service		CO2 injection to Well 1046							
	3	P&ID No.	Pip. class	P11569.11.71.08.1611		251011-20-X					
	4	Line Number	Equipment No	6"-CG-0679-251011-20-X-H							
	5	SIL		<input checked="" type="checkbox"/> SIL	SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³				
	7	Sour Service	Special Conditions		Yes						
	8	Op. press.	Oper. temp.		204 bar-g	58 °C					
	9	Design press.	Min.	Max.			278 bar-g				
	10	Design temp.	Min.	Max.	-19 °C		85 °C				
Transmitter	11	Instrument type			Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 300 bar Gage				
	13	Zero adj.	Span adj.		External		External				
	14	OVERRANGE prot.	Load		Yes	600 ohm					
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes					
	16	Power supply			24 Vdc(2 wire)						
	17	Output signal			4 - 20 mA(HART)						
	18	Element type			Diaphragm						
	19	Material			Hastelloy C						
	20	Body rating			VTA						
	21	Op. temp. limits	Amb. temp effect		VTA		VTA				
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent				
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone				
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al				
	25	Vent	Drain		NA		NA				
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)				
	27	Cable gland			No						
	28	Mounting bracket			2" SS Pipe Mounting						
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification		IP65		EEx(ia)				
	31										
Diaphragm Seal	32	Size & rating			NA						
	33	Seal type	Ext. length		N/A		N/A				
	34	Diaphragm(s) material			N/A						
	35	Housing material			N/A						
	36	Fill Fluid	Flushing		N/A		N/A				
	37	Capillary material			N/A						
	38	Capillary type	Capillary length		NA		NA				
	39										
Manifold	40	Type	Size & rating		With 2 - Way Manifold		1/2" NPT-F				
	41	Body material			SS316L						
	42	Trim material			Hastelloy C						
Accessories	43	LCD Display	Display scale		Internal	VTA					
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX					
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156						
	46										
Purchase	47	Manufacturer			VTA						
	48	Model			TBA						
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

Notes: See notes

INSTRUMENT SPECIFICATION							شركة أبوظبي للعمليات البترولية البرية (أدكو) Abu Dhabi Company for Onshore Oil Operations (ADCO)	
Pressure Transmitter							WorleyParsons ALSA	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Sheet 24 of 73	Code:1303 Rev.: 1
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			

General Data	1	Tag Number			11-71-PT -1046J -06			
	2	Service			CO2 Injection Choke Valve Downstream of Well 1046			
	3	P&ID No.	Pip. class		P11569.11.71.08.1611	251011-20-X		
	4	Line Number	Equipment No		6"-CG-0628-251011-20-X-H			
	5	SIL			<input checked="" type="checkbox"/> SIL	SIL 2		
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³	
	7	Sour Service	Special Conditions		Yes			
	8	Op. press.	Oper. temp.		204 bar-g	58 °C		
	9	Design press.	Min.	Max.		278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C	85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter			
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300	bar Gage	
	13	Zero adj.	Span adj.	External	External			
	14	OVERRANGE prot.	Load	Yes	600 ohm			
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span	Yes			
	16	Power supply	24 Vdc(2 wire)					
	17	Output signal	4 - 20 mA(HART)					
	18	Element type	Diaphragm					
	19	Material	Hastelloy C					
	20	Body rating	VTA					
	21	Op. temp. limits	Amb. temp effect	VTA	VTA			
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone			
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain	NA	NA			
26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)				
27	Cable gland	No						
28	Mounting bracket	2" SS Pipe Mounting						
29	Area classification	Zone 1, Gas group IIB, Temperature Class T3						
30	Ingress Protection	Certification	IP65	EEx(ia)				
31								
Diaphragm Seal	32	Size & rating			NA			
	33	Seal type	Ext. length	N/A	N/A			
	34	Diaphragm(s) material			N/A			
	35	Housing material			N/A			
	36	Fill Fluid	Flushing	N/A	N/A			
	37	Capillary material			N/A			
	38	Capillary type	Capillary length	NA	NA			
39								
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L			
	42	Trim material			Hastelloy C			
Accessories	43	LCD Display	Display scale	Internal	VTA			
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156			
	46							
Purchase	47	Manufacturer			VTA			
	48	Model			TBA			
	49	Client Reference	Requisition No.	Item				
50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	شركة أبوظبي للعمليات الشاطئية المعرفة (أدكو) Abu Dhabi Company for Onshore Oil Operations (ADCO)	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Sheet 25 of 73	
						Code:1303	Rev.: 1	

General Data	1	Tag Number		11-71-PT -1046J -36		
	2	Service		CO2 Injection Choke Valve Downstream of Well 1046		
	3	P&ID No.	Pip. class	P11569.11.71.08.1611	251011-20-X	
	4	Line Number	Equipment No	6"-CG-0628-251011-20-X-H		
	5	SIL		<input checked="" type="checkbox"/> SIL	SIL 2	
Operating Conditions	6	Fluid	Fluid Density	Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions	Yes		
	8	Op. press.	Oper. temp.	204 bar-g	58 °C	
	9	Design press.	Min. Max.		278 bar-g	
	10	Design temp.	Min. Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter	
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300 bar Gage
	13	Zero adj.	Span adj.	External	External	
	14	OVERRANGE prot.	Load	Yes	600 ohm	
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span	Yes	
	16	Power supply			24 Vdc(2 wire)	
	17	Output signal			4 - 20 mA(HART)	
	18	Element type			Diaphragm	
	19	Material			Hastelloy C	
	20	Body rating			VTA	
	21	Op. temp. limits	Amb. temp effect	VTA	VTA	
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone	
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain	NA	NA	
26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)		
27	Cable gland		No			
28	Mounting bracket		2" SS Pipe Mounting			
29	Area classification		Zone 1, Gas group IIB, Temperature Class T3			
30	Ingress Protection	Certification	IP65	EEx(ia)		
31						
Diaphragm Seal	32	Size & rating			NA	
	33	Seal type	Ext. length	N/A	N/A	
	34	Diaphragm(s) material			N/A	
	35	Housing material			N/A	
	36	Fill Fluid	Flushing	N/A	N/A	
	37	Capillary material		N/A		
	38	Capillary type	Capillary length	NA	NA	
	39					
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F	
	41	Body material		SS316L		
	42	Trim material		Hastelloy C		
Accessories	43	LCD Display	Display scale	Internal	VTA	
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement		Required as per NACE MR 01-75/ISO 15156		
	46					
Purchase	47	Manufacturer			VTA	
	48	Model			TBA	
	49	Client Reference	Requisition No.	Item		
	50	Material Code				

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status		
ADCO Doc.No.: 11.99.40.1605						Code:1303	Rev.: 1
						ALSA	
						WorleyParsons	DESIGNING & ENGINEERING
						Abu Dhabi Company for Onshore Oil Operations (ADCO)	MANUFACTURING & CONSTRUCTION CO. L.L.C.
						Sheet 26	of 73

General Data	1	Tag Number			11-71-PT -1046J -21				
	2	Service			PIG Receiver North Flank				
	3	P&ID No.	Pip. class		P11569.11.71.08.1608	251011-20-XPL			
	4	Line Number	Equipment No		8"-CG-4601-251011-20-XPL				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		224 bar-g	58 °C			
	9	Design press.	Min.	Max.					
	10	Design temp.	Min.	Max.	-19 °C	278 bar-g			
Transmitter	11	Instrument type	Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 350	bar Gage		
	13	Zero adj.	Span adj.	External		External			
	14	OVERRANGE prot.	Load	Yes		600 ohm			
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span		Yes			
	16	Power supply	24 Vdc(2 wire)						
	17	Output signal	4 - 20 mA(HART)						
	18	Element type	Diaphragm						
	19	Material	Hastelloy C						
	20	Body rating	VTA						
	21	Op. temp. limits	Amb. temp effect	VTA		VTA			
	22	Process flange mat.	Packing material	NA		Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid	Glass Filled TFE		Silicone			
	24	Bolts material	Housing material	VTA		Epoxy Coated Low Cu Al			
	25	Vent	Drain	NA		NA			
	26	Process conn.	Electrical conn.	1/2" NPT-F		ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket	2" SS Pipe Mounting						
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification	IP65		EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating	NA						
	33	Seal type	Ext. length	N/A		N/A			
	34	Diaphragm(s) material	N/A						
	35	Housing material	N/A						
	36	Fill Fluid	Flushing	N/A		N/A			
	37	Capillary material	N/A						
	38	Capillary type	Capillary length	NA		NA			
	39								
Manifold	40	Type	Size & rating	With 2 - Way Manifold		1/2" NPT-F			
	41	Body material	SS316L						
	42	Trim material	Hastelloy C						
Accessories	43	LCD Display	Display scale	Internal		VTA			
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX			
	45	NACE Requirement	Required as per NACE MR 01-75/ISO 15156						
	46								
Purchase	47	Manufacturer	VTA						
	48	Model	TBA						
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

							INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303	Rev.: 1

شركة أبوظبي للعمليات البترولية (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 **WorleyParsons**
Engineering & Construction

 **ALSA**
International Construction LLC

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General Data	1	Tag Number		11-71-PT -1046J -22					
	2	Service		PIG Receiver North Flank					
	3	P&ID No.	Pip. class		P11569.11.71.08.1608		251011-20-XPL		
	4	Line Number	Equipment No		8*-CG-4601-251011-20-XPL				
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2		997 kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		224 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 350 bar Gage		
	13	Zero adj.	Span adj.		External		External		
	14	OVERRANGE prot.	Load		Yes		600 ohm		
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes		
	16	Power supply	24 Vdc(2 wire)						
	17	Output signal	4 - 20 mA(HART)						
	18	Element type	Diaphragm						
	19	Material	Hastelloy C						
	20	Body rating	VTA						
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone		
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)		
	27	Cable gland	No						
	28	Mounting bracket	2" SS Pipe Mounting						
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating		NA					
	33	Seal type	Ext. length	N/A		N/A			
	34	Diaphragm(s) material		N/A					
	35	Housing material		N/A					
	36	Fill Fluid	Flushing	N/A		N/A			
	37	Capillary material		N/A					
	38	Capillary type	Capillary length	NA		NA			
	39								
Manifold	40	Type	Size & rating	With 2 - Way Manifold		1/2" NPT-F			
	41	Body material		SS316L					
	42	Trim material		Hastelloy C					
Accessories	43	LCD Display	Display scale	Internal		VTA			
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX			
	45	NACE Requirement		Required as per NACE MR 01-75/ISO 15156					
	46								
Purchase	47	Manufacturer		VTA					
	48	Model		TBA					
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

Notes: See notes

						INSTRUMENT SPECIFICATION Pressure Transmitter	شركة أبوظبي للعمليات البترولية (الذكورة) Abu Dhabi Company for Onshore Oil Operations (ADCO)
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		 WorleyParsons Engineering & Construction Co. LLC
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		 ALSA Engineering & Construction Co. LLC
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		Sheet 28 of 73
Rev No	Date	By	Chk	Appr	Status		Code:1303

General Data	1	Tag Number			11-71-PT -1046J -23B					
	2	Service			RP-1046J-01 Pressure					
	3	P&ID No.	Pip. class		P11569.11.71.08.1608					
	4	Line Number	Equipment No				RP-1046J-01			
	5	SIL	<input type="checkbox"/> SIL =N.A.							
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³			
	7	Sour Service	Special Conditions		Yes					
	8	Op. press.	Oper. temp.		230 bar-g		58 °C			
	9	Design press.	Min.	Max.			278 bar-g			
	10	Design temp.	Min.	Max.	-19 °C		85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter					
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 350	bar Gage		
	13	Zero adj.	Span adj.		External		External			
	14	Overrange prot.	Load		Yes		600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes			
	16	Power supply			24 Vdc(2 wire)					
	17	Output signal			4 - 20 mA(HART)					
	18	Element type			Diaphragm					
	19	Material			Hastelloy C					
	20	Body rating			VTA					
	21	Op. temp. limits	Amb. temp effect		VTA		VTA			
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone			
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA		NA			
Diaphragm Seal	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No							
	28	Mounting bracket			2" SS Pipe Mounting					
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3					
	30	Ingress Protection	Certification		IP65		EEx(ia)			
	31									
	32	Size & rating			NA					
	33	Seal type	Ext. length		N/A		N/A			
	34	Diaphragm(s) material			N/A					
	35	Housing material			N/A					
Manifold	36	Fill Fluid	Flushing		N/A		N/A			
	37	Capillary material			N/A					
	38	Capillary type	Capillary length		NA		NA			
Accessories	39									
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F				
	41	Body material			SS316L					
	42	Trim material			Hastelloy C					
Purchase	43	LCD Display	Display scale		Internal	VTA				
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX				
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156					
	46									
Purchase	47	Manufacturer			VTA					
	48	Model			TBA					
	49	Client Reference	Requisition No.	Item						
	50	Material Code								

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	INSTRUMENT SPECIFICATION	
							Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		 WorleyParsons	 ALSA
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		Sheet 29	of 73
							Code:1303	Rev.: 1

General Data	1	Tag Number			11-71-PT -1046W -13				
	2	Service			Well 1046 Vent Line Pressure				
	3	P&ID No.	Pip. class		P11569.11.71.08.1611	251011-20-X			
	4	Line Number	Equipment No		4"-CG-0631-251011-20-X-H				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g	58 °C			
	9	Design press.	Min.	Max.					
	10	Design temp.	Min.	Max.	-19 °C	278 bar-g			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
50 Material Code									

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

General Data	1	Tag Number			11-71-PT -1051P -08					
	2	Service			Annulus Pressure of Well 1051					
	3	P&ID No.	Pip. class		P11569.11.71.08.1615(1/3)		256620-X			
	4	Line Number	Equipment No		2"-PO-8354-256620-X					
	5	SIL	<input type="checkbox"/> SIL =N.A.							
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	751.2	kg/m ³			
	7	Sour Service	Special Conditions		Yes					
	8	Op. press.	Oper. temp.		69 bar-g		75 °C			
	9	Design press.	Min.	Max.			278 bar-g			
	10	Design temp.	Min.	Max.	-49 °C		85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter					
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External		External			
	14	OVERRANGE prot.	Load		Yes		600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes			
	16	Power supply			24 Vdc(2 wire)					
	17	Output signal			4 - 20 mA(HART)					
	18	Element type			Diaphragm					
	19	Material			Hastelloy C					
	20	Body rating			VTA					
	21	Op. temp. limits	Amb. temp effect		VTA		VTA			
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone			
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA		NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No					
	28	Mounting bracket			2" SS Pipe Mounting					
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3					
	30	Ingress Protection	Certification		IP65		EEx(ia)			
	31									
Diaphragm Seal	32	Size & rating			NA					
	33	Seal type	Ext. length		N/A		N/A			
	34	Diaphragm(s) material			N/A					
	35	Housing material			N/A					
	36	Fill Fluid	Flushing		N/A		N/A			
	37	Capillary material			N/A					
	38	Capillary type	Capillary length		NA		NA			
Manifold	39									
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F				
	41	Body material			SS316L					
Accessories	42	Trim material			Hastelloy C					
	43	LCD Display	Display scale		Internal	VTA				
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX				
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156					
Purchase	46									
	47	Manufacturer			VTA					
	48	Model			TBA					
	49	Client Reference	Requisition No.	Item						
50 Material Code										

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION		Sheet 31 of 73
						Pressure Transmitter		
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	 WorleyParsons	 ALSA	Code:1303 Rev.: 1
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
						ADCO Doc.No.: 11.99.40.1605		

General Data	1	Tag Number			11-71-PT -1051P -09				
	2	Service			Pressure Upstream Choke Valve of Well 1051				
	3	P&ID No.	Pip. class		P11569.11.71.08.1615(1/3)		256620-X		
	4	Line Number	Equipment No		6"-PO-8351-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	751	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		69 bar-g		75 °C		
	9	Design press.	Min.	Max.			278		
	10	Design temp.	Min.	Max.	-49 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303
						Rev.: 1

شركة أبوظبي للعمليات البحرينية (أدنوك)
Abu Dhabi Company for Offshore Oil Operations (ADCO)

 WorleyParsons resources & energy  ALSA Engineering & Construction LLC

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General Data	1	Tag Number			11-71-PT -1051P -10							
	2	Service			Pressure Downstream Choke Valve of Well 1051							
	3	P&ID No.	Pip. class		P11569.11.71.08.1615(1/3)		256620-X					
	4	Line Number	Equipment No		6"-PO-8352-256620-X							
	5	SIL	<input type="checkbox"/> SIL =N.A.									
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid		751.2	kg/m ³				
	7	Sour Service	Special Conditions		Yes							
	8	Op. press.	Oper. temp.		65.5 bar-g		75 °C					
	9	Design press.	Min.	Max.			278 bar-g					
	10	Design temp.	Min.	Max.	-49 °C		85 °C					
Transmitter	11	Instrument type			Electronic Smart Transmitter							
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 100	bar Gage				
	13	Zero adj.	Span adj.		External		External					
	14	OVERRANGE prot.	Load		Yes		600 ohm					
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes					
	16	Power supply			24 Vdc(2 wire)							
	17	Output signal			4 - 20 mA(HART)							
	18	Element type			Diaphragm							
	19	Material			Hastelloy C							
	20	Body rating			VTA							
	21	Op. temp. limits	Amb. temp effect		VTA		VTA					
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone					
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al					
	25	Vent	Drain		NA		NA					
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)					
	27	Cable gland			No							
	28	Mounting bracket			2" SS Pipe Mounting							
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3							
	30	Ingress Protection	Certification		IP65		EEx(ia)					
	31											
Diaphragm Seal	32	Size & rating			NA							
	33	Seal type	Ext. length		N/A		N/A					
	34	Diaphragm(s) material			N/A							
	35	Housing material			N/A							
	36	Fill Fluid	Flushing		N/A		N/A					
	37	Capillary material			N/A							
	38	Capillary type	Capillary length		NA		NA					
	39											
Manifold	40	Type	Size & rating		With 2 - Way Manifold		1/2" NPT-F					
	41	Body material			SS316L							
	42	Trim material			Hastelloy C							
Accessories	43	LCD Display	Display scale		Internal		VTA					
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.		ATEX					
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156							
	46											
Purchase	47	Manufacturer			VTA							
	48	Model			TBA							
	49	Client Reference	Requisition No.	Item								
	50	Material Code										

See notes
Notes:

							INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status		ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1



General Data	1	Tag Number			11-71-PT -1051P -14				
	2	Service			Casing Tubing Annulus Pressure of Well 1051				
	3	P&ID No.	Pip. class		P11569.11.71.08.1615(1/3)	256620-X			
	4	Line Number	Equipment No		2"-PO-8354-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	751.2	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		69 bar-g	75 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	-49 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
Accessories	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
50 Material Code									

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية - أبوظبي
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons Resources & Chemicals LLC
ALSA Engineering & Construction LLC

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General Data	1	Tag Number		11-71-PT -1051P 25							
	2	Service		Producer Well 1051 Outlet Pressure							
	3	P&ID No.	Pip. class		P11569.11.71.08.1615(1/3)		256620-X				
	4	Line Number	Equipment No		6"-PO-8352-256620-X						
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2								
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid		751.2 kg/m³				
	7	Sour Service	Special Conditions		Yes						
	8	Op. press.	Oper. temp.		65.5 bar-g		75 °C				
	9	Design press.	Min.	Max.			278 bar-g				
	10	Design temp.	Min.	Max.	49 °C		85 °C				
Transmitter	11	Instrument type			Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range		VTA	To VTA	bar Gage				
	13	Zero adj.	Span adj.		External		External				
	14	OVERRANGE prot.	Load		Yes		600 ohm				
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes				
	16	Power supply			24 Vdc(2 wire)						
	17	Output signal			4 - 20 mA(HART)						
	18	Element type			Diaphragm						
	19	Material			Hastelloy C						
	20	Body rating			VTA						
	21	Op. temp. limits	Amb. temp effect		VTA		VTA				
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent				
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone				
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al					
	25	Vent	Drain		NA	NA					
	26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)				
	27	Cable gland			No						
	28	Mounting bracket			2" SS Pipe Mounting						
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)					
	31										
Diaphragm Seal	32	Size & rating			NA						
	33	Seal type	Ext. length		N/A		N/A				
	34	Diaphragm(s) material			N/A						
	35	Housing material			N/A						
	36	Fill Fluid	Flushing		N/A	N/A					
	37	Capillary material			N/A						
	38	Capillary type	Capillary length		NA	NA					
	39										
Manifold	40	Type	Size & rating		With 2 - Way Manifold		1/2" NPT-F				
	41	Body material			SS316L						
	42	Trim material			Hastelloy C						
Accessories	43	LCD Display	Display scale		Internal	VTA					
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX					
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156						
	46										
Purchase	47	Manufacturer			VTA						
	48	Model			TBA						
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

See notes

Notes: See Notes

						INSTRUMENT SPECIFICATION Pressure Transmitter	شركة أبوظبي للعمليات البترولية البرية (أدنوك) Abu Dhabi Company for Onshore Oil Operations (ADCO)
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

General Data	1	Tag Number			11-71-PT -1051P -20				
	2	Service			Producer Well 1051 Outlet Pressure				
	3	P&ID No.	Pip. class		P11569.11.71.08.1615(1/3)		256620-X		
	4	Line Number	Equipment No		6"-PO-8352-256620-X				
	5	SIL	<input checked="" type="checkbox"/> SIL <small>SIL2</small>						
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	751.2	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		65.5 bar-g	75 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	49 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
Diaphragm Seal	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			NA				
	35	Housing material			NA				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			NA				
	38	Capillary type	Capillary length		NA	NA			
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

Notes: See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Abu Dhabi Company for Onshore Oil Operations (ADCO)	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	WorleyParsons	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	ALSA	
ADCO Doc.No.: 11.99.40.1605						Code:1303	Rev.: 1

General Data	1	Tag Number			11-71-PT -1052P -08				
	2	Service			Annulus Pressure of Well 1052				
	3	P&ID No.	Pip. class		P11569.11.71.08.1616(1/3)		256620-X		
	4	Line Number	Equipment No		2"-PO-8359-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	755.6	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		69 bar-g	75 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	-49 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	Pressure Transmitter	Sh. Abu Dhabi Company for Onshore Oil Operations (ADCO)	WorleyParsons	ALSA	Sheet 37 of 73
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE						
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL						
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW						
ADCO Doc.No.: 11.99.40.1605						Code:1303		Rev.: 1			

General Data	1	Tag Number		11-71-PT -1052P -09				
	2	Service		Pressure Upstream Choke Valve of Well 1052				
	3	P&ID No.	Pip. class	P11569.11.71.08.1616(1/3)		256620-X		
	4	Line Number	Equipment No		6"-PO-8356-256620-X			
	5	SIL	<input type="checkbox"/> SIL =N.A.					
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	755.6 kg/m³		
	7	Sour Service	Special Conditions		Yes			
	8	Op. press.	Oper. temp.		69 bar-g	75 °C		
	9	Design press.	Min.	Max.		278 bar-g		
	10	Design temp.	Min.	Max.	49 °C	85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter			
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 100 bar Gage		
	13	Zero adj.	Span adj.		External	External		
	14	Overrange prot.	Load		Yes	600 ohm		
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes		
	16	Power supply			24 Vdc(2 wire)			
	17	Output signal			4 - 20 mA(HART)			
	18	Element type			Diaphragm			
	19	Material			Hastelloy C			
	20	Body rating			VTA			
	21	Op. temp. limits	Amb. temp effect		VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent		
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone		
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al		
	25	Vent	Drain		NA	NA		
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)		
	27	Cable gland			No			
	28	Mounting bracket			2" SS Pipe Mounting			
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3			
	30	Ingress Protection	Certification		IP65	EEx(ia)		
	31							
Diaphragm Seal	32	Size & rating			NA			
	33	Seal type	Ext. length	N/A		N/A		
	34	Diaphragm(s) material			N/A			
	35	Housing material			N/A			
	36	Fill Fluid	Flushing		N/A	N/A		
	37	Capillary material			N/A			
	38	Capillary type	Capillary length		NA	NA		
	39							
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F		
	41	Body material			SS316L			
	42	Trim material			Hastelloy C			
Accessories	43	LCD Display	Display scale		Internal	VTA		
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX		
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156			
	46							
Purchase	47	Manufacturer			VTA			
	48	Model			TBA			
	49	Client Reference	Requisition No.	Item				
	50	Material Code						

See notes
Notes:

						INSTRUMENT SPECIFICATION	
						Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

General Data	1	Tag Number			11-71-PT -1052P -10				
	2	Service			Pressure Downstream Choke Valve of Well 1052				
	3	P&ID No.	Pip. class		P11569.11.71.08.1616(1/3)	256620-X			
	4	Line Number	Equipment No		6"-PO-8357-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	755.6	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		65.5 bar-g	75 °C			
	9	Design press.	Min.	Max.					
	10	Design temp.	Min.	Max.	-49 °C	278 bar-g			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		NA	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
Accessories	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
50 Material Code									

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
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شركة أبوظبي للعمليات المندوبلة المدرية (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA

Engineering Services LLC

General Data	1	Tag Number			11-71-PT -1052P -14				
	2	Service			Casing Tubing Annulus Pressure of Well 1052				
	3	P&ID No.	Pip. class		P11569.11.71.08.1616(1/3)		256620-X		
	4	Line Number	Equipment No		2"-PO-8359-256620-X				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	755.6	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		69 bar-g	75 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	49 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
Accessories	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
Purchase	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons
Engineering & Construction Division
ALSA

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General Data	1	Tag Number			11-71-PT -1052P 25						
	2	Service			Producer Well 1052 Outlet Pressure						
	3	P&ID No.	Pip. class		P11569.11.71.08.1616(1/3)		256620-X				
	4	Line Number	Equipment No		6"-PO-8357-256620-X						
	5	SIL	<input checked="" type="checkbox"/> SIL SIL2								
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	755.6	kg/m ³				
	7	Sour Service	Special Conditions		Yes						
	8	Op. press.	Oper. temp.		65.5 bar-g	75 °C					
	9	Design press.	Min.	Max.		278 bar-g					
	10	Design temp.	Min.	Max.	-49 °C	85 °C					
Transmitter	11	Instrument type	Electronic Smart Transmitter								
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 100	bar Gage				
	13	Zero adj.	Span adj.	External		External					
	14	OVERRANGE prot.	Load	Yes		600 ohm					
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span		Yes					
	16	Power supply	24 Vdc(2 wire)								
	17	Output signal	4 - 20 mA(HART)								
	18	Element type	Diaphragm								
	19	Material	Hastelloy C								
	20	Body rating	VTA								
	21	Op. temp. limits	Amb. temp effect	VTA		VTA					
	22	Process flange mat.	Packing material	NA		Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid	Glass Filled TFE		Silicone					
	24	Bolts material	Housing material	VTA		Epoxy Coated Low Cu Al					
	25	Vent	Drain	NA		NA					
	26	Process conn.	Electrical conn.	1/2" NPT-F		ISO M20 X 1.5 (2 Nos)					
	27	Cable gland	No								
	28	Mounting bracket	2" SS Pipe Mounting								
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3								
	30	Ingress Protection	Certification	IP65		EEx(ia)					
	31										
Diaphragm Seal	32	Size & rating	NA								
	33	Seal type	Ext. length	N/A		N/A					
	34	Diaphragm(s) material	N/A								
	35	Housing material	N/A								
	36	Fill Fluid	Flushing	N/A		N/A					
	37	Capillary material	N/A								
	38	Capillary type	Capillary length	NA		NA					
	39										
Manifold	40	Type	Size & rating	With 2 - Way Manifold		1/2" NPT-F					
	41	Body material	SS316L								
	42	Trim material	Hastelloy C								
Accessories	43	LCD Display	Display scale	Internal		VTA					
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX					
	45	NACE Requirement	Required as per NACE MR 01-75/ISO 15156								
	46										
Purchase	47	Manufacturer	VTA								
	48	Model	TBA								
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
						ADCO Doc.No.: 11.99.40.1605	
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General Data	1	Tag Number			11-71-PT -1052P -20		
	2	Service			Producer Well 1052 Outlet Pressure		
	3	P&ID No.	Pip. class		P11569.11.71.08.1616(1/3)		256620-X
	4	Line Number	Equipment No		6"-PO-8357-256620-X		
	5	SIL	<input checked="" type="checkbox"/> SIL SIL2				
Operating Conditions	6	Fluid	Fluid Density		Multiphase Well Fluid	755.6	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		65.5 bar-g	75 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	49 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 100	bar Gage
	13	Zero adj.	Span adj.		External	External	
	14	OVERRANGE prot.	Load		Yes	600 ohm	
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes	
	16	Power supply	24 Vdc(2 wire)				
	17	Output signal	4 - 20 mA(HART)				
	18	Element type	Diaphragm				
	19	Material	Hastelloy C				
	20	Body rating	VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA	
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone	
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain		NA	NA	
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)	
	27	Cable gland	No				
	28	Mounting bracket	2" SS Pipe Mounting				
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)	
	31						
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length		N/A	N/A	
	34	Diaphragm(s) material			NA		
	35	Housing material	NA				
	36	Fill Fluid	Flushing		N/A	N/A	
Manifold	37	Capillary material	NA				
	38	Capillary type	Capillary length		NA	NA	
	39						
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F	
	41	Body material	SS316L				
	42	Trim material	Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA	
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

Notes: See notes

Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	INSTRUMENT SPECIFICATION		Sheet 42 of 73
							Pressure Transmitter		
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE				
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL				
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW				



شركة أبوظبي للعمليات البترولية (أدو) Abu Dhabi Company for Onshore Oil Operations (ADCO)

Engineering & Services

ALSA

Engineering & Services

General Data	1	Tag Number			11-71-PT -1053H -17				
	2	Service			Water Injection to Well 1053				
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	151440Y			
	4	Line Number	Equipment No		4"-IW-3143-151440-Y				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		141.5 bar-g	75 °C			
	9	Design press.	Min.	Max.		255 bar-g			
	10	Design temp.	Min.	Max.	0 °C	150 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 200	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
Accessories	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
						Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية الدولية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons INTEGRATION & SERVICES  ALSA ENGINEERING & MANUFACTURING LLC

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General Data	1	Tag Number			11-71-PT -1053H -19				
	2	Service			Water Injection to Well 1053				
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	151440Y			
	4	Line Number	Equipment No		4"-IW-3143-151440-Y				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		141.5 bar-g	75 °C			
	9	Design press.	Min.	Max.		255 bar-g			
	10	Design temp.	Min.	Max.	0 °C	150 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 200	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons ALSA
Engineering Services Engineering Construction OIL & GAS

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General Data	1	Tag Number			11-71-PT -1053J -02				
	2	Service			CO2 injection to Well 1053				
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	251011-20-X			
	4	Line Number	Equipment No		6"-CG-0635-251011-20-X-H				
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
Accessories	42	Trim material			Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
50 Material Code									

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303
							Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 **WorleyParsons**  **ALSA**
Engineering Services | Engineering Construction O&G

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General Data	1	Tag Number			11-71-PT -1053J -13		
	2	Service			CO2 injection to Well 1053		
	3	P&ID No.	Pip. class		P11569.11.71.08.1612		251011-20-X
	4	Line Number	Equipment No		6"-CG-0635-251011-20-X-H		
	5	SIL			<input checked="" type="checkbox"/> SIL		SIL 2
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300	bar Gage
	13	Zero adj.	Span adj.		External	External	
	14	OVERRANGE prot.	Load		Yes	600 ohm	
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes	
	16	Power supply			24 Vdc(2 wire)		
	17	Output signal			4 - 20 mA(HART)		
	18	Element type			Diaphragm		
	19	Material			Hastelloy C		
	20	Body rating			VTA		
	21	Op. temp. limits	Amb. temp effect		VTA	VTA	
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone	
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain		NA	NA	
26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)		
27	Cable gland			No			
28	Mounting bracket			2" SS Pipe Mounting			
29	Area classification			Zone 1, Gas group IIB, Temperature Class T3			
30	Ingress Protection	Certification		IP65	EEx(ia)		
31							
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length		NA	N/A	
	34	Diaphragm(s) material			N/A		
	35	Housing material			N/A		
	36	Fill Fluid	Flushing		N/A	N/A	
	37	Capillary material			N/A		
	38	Capillary type	Capillary length		NA	NA	
39							
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F	
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale		Internal	VTA	
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	شركة أبوظبي للعمليات البترولية المجردة (أدكو) Abu Dhabi Company for Onshore Oil Operations (ADCO)
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

General Data	1	Tag Number			11-71-PT -1053J -06		
	2	Service			CO2 Injection Choke Valve Downstream of Well 1053		
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	251011-20-X	
	4	Line Number	Equipment No		6"-CG-0636-251011-20-X-H		
	5	SIL	<input checked="" type="checkbox"/> SIL 2				
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage
	13	Zero adj.	Span adj.		External	External	
	14	Overrange prot.	Load		Yes	600 ohm	
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes	
	16	Power supply	24 Vdc(2 wire)				
	17	Output signal	4 - 20 mA(HART)				
	18	Element type	Diaphragm				
	19	Material	Hastelloy C				
	20	Body rating	VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA	
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone	
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain		NA	NA	
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)	
	27	Cable gland	No				
	28	Mounting bracket	2" SS Pipe Mounting				
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)	
	31						
Diaphragm Seal	32	Size & rating	NA				
	33	Seal type	Ext. length	N/A		N/A	
	34	Diaphragm(s) material	N/A				
	35	Housing material	N/A				
	36	Fill Fluid	Flushing	N/A		N/A	
Manifold	37	Capillary material	N/A				
	38	Capillary type	Capillary length	NA		NA	
	39						
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F	
	41	Body material	SS316L				
	42	Trim material	Hastelloy C				
	43	LCD Display	Display scale		Internal	VTA	
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement	Required as per NACE MR 01-75/ISO 15156				
	46						
Purchase	47	Manufacturer	VTA				
	48	Model	TBA				
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303
							Rev. 1

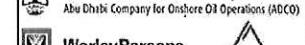
General Data	1	Tag Number			11-71-PT -1053J -14		
	2	Service			CO2 Injection Choke Valve Downstream of Well 1053		
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	251011-20-X	
	4	Line Number	Equipment No		6"-CG-0636-251011-20-X-H		
	5	SIL			<input checked="" type="checkbox"/> SIL	SIL 2	
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300	bar Gage
	13	Zero adj.	Span adj.	External		External	
	14	OVERRANGE prot.	Load	Yes		600 ohm	
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span		Yes	
	16	Power supply			24 Vdc(2 wire)		
	17	Output signal			4 - 20 mA(HART)		
	18	Element type			Diaphragm		
	19	Material			Hastelloy C		
	20	Body rating			VTA		
	21	Op. temp. limits	Amb. temp effect	VTA		VTA	
	22	Process flange mat.	Packing material	NA		Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid	Glass Filled TFE		Silicone	
	24	Bolts material	Housing material	VTA		Epoxy Coated Low Cu Al	
	25	Vent	Drain	NA		NA	
26	Process conn.	Electrical conn.	1/2" NPT-F		ISO M20 X 1.5 (2 Nos)		
27	Cable gland	No					
28	Mounting bracket	2" SS Pipe Mounting					
29	Area classification			Zone 1, Gas group IIB, Temperature Class T3			
30	Ingress Protection	Certification	IP65		EEx(ia)		
31							
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length	N/A		N/A	
	34	Diaphragm(s) material			N/A		
	35	Housing material			N/A		
	36	Fill Fluid	Flushing	N/A		N/A	
	37	Capillary material	N/A				
	38	Capillary type	Capillary length	NA		NA	
	39						
Manifold	40	Type	Size & rating	With 2 - Way Manifold		1/2" NPT-F	
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale	Internal	VTA		
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303
						Rev.: 1

شركة أبوظبي للعمليات البترولية البرية (أدنوك)

Abu Dhabi Company for Onshore Oil Operations (ADCO)



WorleyParsons



ALSA

Engineering & Construction Co. LLC

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General Data	1	Tag Number			11-71-PT -1053W -13				
	2	Service			Well 1053 Vent Line Pressure				
	3	P&ID No.	Pip. class		P11569.11.71.08.1612	251011-20-X			
	4	Line Number	Equipment No		4"-CG-0639-251011-20-X-H				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية البرية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 **WorleyParsons**  **ALSA**
Engineering Services LLC Engineering Construction LLC

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General Data	1	Tag Number			11-71-PT -1054H -17				
	2	Service			Water Injection to well 1054				
	3	P&ID No.	Pip. class		P11569.11.71.08.1614	151440Y			
	4	Line Number	Equipment No		4"-IW-3137-151440-Y				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		141.5 bar-g	75 °C			
	9	Design press.	Min.	Max.		255 bar-g			
	10	Design temp.	Min.	Max.	0 °C	150 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 200	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Purchase	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1



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General Data	1	Tag Number			11-71-PT -1054H -19		
	2	Service			Water Injection to well 1054		
	3	P&ID No.	Pip. class		P11569.11.71.08.1614	151440Y	
	4	Line Number	Equipment No		4"-IW-3137-151440-Y		
	5	SIL	<input type="checkbox"/> SIL =N.A.				
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		141.5 bar-g	75 °C	
	9	Design press.	Min.	Max.		255 bar-g	
	10	Design temp.	Min.	Max.	0 °C	150 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 200	bar Gage
	13	Zero adj.	Span adj.		External	External	
	14	OVERRANGE prot.	Load		Yes	600 ohm	
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes	
	16	Power supply	24 Vdc(2 wire)				
	17	Output signal	4 - 20 mA(HART)				
	18	Element type	Diaphragm				
	19	Material	Hastelloy C				
	20	Body rating	VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA	
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone	
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain		NA	NA	
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)	
	27	Cable gland	No				
	28	Mounting bracket	2" SS Pipe Mounting				
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)	
	31						
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length		N/A	N/A	
	34	Diaphragm(s) material			N/A		
	35	Housing material	N/A				
	36	Fill Fluid	Flushing		N/A	N/A	
Manifold	37	Capillary material	N/A				
	38	Capillary type	Capillary length		NA	NA	
	39						
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F	
	41	Body material	SS316L				
	42	Trim material	Hastelloy C				
Purchase	43	LCD Display	Display scale		Internal	VTA	
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
	47	Manufacturer	VTA				
	48	Model	TBA				
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

شركة أبوظبي للعمليات المندوبية للبرية (أدنكو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons ALSA

Engineering Services Division

Engineering Construction Division

Sheet 51 of 73

General Data	1	Tag Number			11-71-PT -1054J -02				
	2	Service			CO2 injection to Well 1054				
	3	P&ID No.	Pip. class		P11569.11.71.08.1614	251011-20-X			
	4	Line Number	Equipment No		6"-CG-0613-251011-20-X-H				
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g	58 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	-19 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Purchase	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
						Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303
							Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons ALSA
Engineering Services LLC Engineering Construction LLC

Sheet 52 of 73

General Data	1	Tag Number			11-71-PT -1054J -13				
	2	Service			CO2 injection to Well 1054				
	3	P&ID No.	Pip. class		P11569.11.71.08.1614	251011-20-X			
	4	Line Number	Equipment No		6"-CG-0613-251011-20-X-H				
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g	58 °C			
	9	Design press.	Min.	Max.		278 bar-g			
	10	Design temp.	Min.	Max.	-19 °C	85 °C			
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No				
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			NA				
	35	Housing material			NA				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			NA				
	38	Capillary type	Capillary length		NA	NA			
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303
							Rev.: 1



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General Data	1	Tag Number			11-71-PT -1054J -06			
	2	Service			CO2 Injection Choke Valve Downstream of Well 1054			
	3	P&ID No.	Pip. class		P11569.11.71.08.1614		251011-20-X	
	4	Line Number	Equipment No		6"-CG-0614-251011-20-X-H			
	5	SIL				<input checked="" type="checkbox"/> SIL 2		
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2		997	kg/m ³
	7	Sour Service	Special Conditions		Yes			
	8	Op. press.	Oper. temp.		204 bar-g		58 °C	
	9	Design press.	Min.	Max.			278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C		85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter			
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 300	bar Gage
	13	Zero adj.	Span adj.		External		External	
	14	OVERRANGE prot.	Load		Yes		600 ohm	
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span		Yes	
	16	Power supply			24 Vdc(2 wire)			
	17	Output signal			4 - 20 mA(HART)			
	18	Element type			Diaphragm			
	19	Material			Hastelloy C			
	20	Body rating			VTA			
	21	Op. temp. limits	Amb. temp effect		VTA		VTA	
	22	Process flange mat.	Packing material		NA		Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE		Silicone	
	24	Bolts material	Housing material		VTA		Epoxy Coated Low Cu Al	
	25	Vent	Drain		NA		NA	
26	Process conn.	Electrical conn.		1/2" NPT-F		ISO M20 X 1.5 (2 Nos)		
27	Cable gland			No				
28	Mounting bracket			2" SS Pipe Mounting				
29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
30	Ingress Protection	Certification		IP65		EEx(ia)		
31								
Diaphragm Seal	32	Size & rating			NA			
	33	Seal type	Ext. length		N/A		N/A	
	34	Diaphragm(s) material			N/A			
	35	Housing material			N/A			
	36	Fill Fluid	Flushing		N/A		N/A	
	37	Capillary material			N/A			
	38	Capillary type	Capillary length		NA		NA	
39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold		1/2" NPT-F	
	41	Body material			SS316L			
	42	Trim material			Hastelloy C			
Accessories	43	LCD Display	Display scale		Internal		VTA	
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.		ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156			
	46							
Purchase	47	Manufacturer			VTA			
	48	Model			TBA			
	49	Client Reference	Requisition No.	Item				
	50	Material Code						

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	ش.أو.ظفـلـيـلـلـعـمـلـيـاتـالـبـدـولـيـةـالـجـرـدـةـ(ـأـدـكـوـ)ـ Abu Dhabi Company for Onshore Oil Operations (ADCO) WorleyParsons	ALSA Engineering Construction Inc. LLC
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status			
ADCO Doc.No.: 11.99.40.1605						Code:1303	Rev.: 1	
						Sheet 54	of 73	

General Data	1	Tag Number			11-71-PT -1054J -14				
	2	Service			CO2 Injection Choke Valve Downstream of Well 1054				
	3	P&ID No.	Pip. class		P11569.11.71.08.1614		251011-20-X		
	4	Line Number	Equipment No		6"-CG-0614-251011-20-X-H				
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material	SS316L						
Accessories	42	Trim material	Hastelloy C						
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303
						Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA

Engineering & Construction Division

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General Data	1	Tag Number		11-71-PT -1054W -13				
	2	Service		Well 1054 Vent Line Pressure				
	3	P&ID No.	Pip. class	P11569.11.71.08.1614		251011-20-X		
	4	Line Number	Equipment No	4"-CG-0617-251011-20-X-H				
	5	SIL	<input type="checkbox"/> SIL =N.A.					
Operating Conditions	6	Fluid	Fluid Density	Dense Phase CO2	997	kg/m³		
	7	Sour Service	Special Conditions	Yes				
	8	Op. press.	Oper. temp.	204 bar-g	58 °C			
	9	Design press.	Min. Max.		278 bar-g			
	10	Design temp.	Min. Max.	-19 °C	85 °C			
Transmitter	11	Instrument type	Electronic Smart Transmitter					
	12	Instrument Range	Instr. Calibrated range	VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.	External	External			
	14	OVERRANGE prot.	Load	Yes	600 ohm			
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span	Yes			
	16	Power supply	24 Vdc(2 wire)					
	17	Output signal	4 - 20 mA(HART)					
	18	Element type	Diaphragm					
	19	Material	Hastelloy C					
	20	Body rating	VTA					
	21	Op. temp. limits	Amb. temp effect	VTA	VTA			
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone			
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain	NA	NA			
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No					
	28	Mounting bracket	2" SS Pipe Mounting					
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3					
	30	Ingress Protection	Certification	IP65	EEx(i)a)			
	31							
Diaphragm Seal	32	Size & rating	NA					
	33	Seal type	Ext. length	N/A	N/A			
	34	Diaphragm(s) material	N/A					
	35	Housing material	N/A					
	36	Fill Fluid	Flushing	N/A	N/A			
	37	Capillary material	N/A					
	38	Capillary type	Capillary length	NA	NA			
	39							
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F			
	41	Body material	SS316L					
	42	Trim material	Hastelloy C					
Accessories	43	LCD Display	Display scale	Internal	VTA			
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement	Required as per NACE MR 01-75/ISO 15156					
	46							
Purchase	47	Manufacturer	VTA					
	48	Model	TBA					
	49	Client Reference	Requisition No.	Item				
	50	Material Code						

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية المعرفة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons
Engineering, Construction & Consulting

 ALSA
Engineering & Construction LLC

Sheet 56 of 73

General Data	1	Tag Number		11-71-PT -1055H -17				
	2	Service		Water Injection to Well 1055				
	3	P&ID No.	Pip. class	P11569.11.71.08.1613		151440Y		
	4	Line Number	Equipment No		4"-IW-3134-151440-Y			
	5	SIL	<input type="checkbox"/> SIL =N.A.					
Operating Conditions	6	Fluid	Fluid Density		Water	1172 kg/m³		
	7	Sour Service	Special Conditions		Yes			
	8	Op. press.	Oper. temp.		141.5 bar-g	75 °C		
	9	Design press.	Min.	Max.		255 bar-g		
	10	Design temp.	Min.	Max.	0 °C	150 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter			
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 200 bar Gage		
	13	Zero adj.	Span adj.		External	External		
	14	Overrange prot.	Load	Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes		
	16	Power supply			24 Vdc(2 wire)			
	17	Output signal			4 - 20 mA(HART)			
	18	Element type			Diaphragm			
	19	Material			Hastelloy C			
	20	Body rating			VTA			
	21	Op. temp. limits	Amb. temp effect	VTA	VTA			
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone			
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain	NA	NA			
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No			
	28	Mounting bracket			2" SS Pipe Mounting			
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3			
	30	Ingress Protection	Certification	IP65	EEx(ia)			
	31							
Diaphragm Seal	32	Size & rating			NA			
	33	Seal type	Ext. length	N/A	N/A			
	34	Diaphragm(s) material			N/A			
	35	Housing material			N/A			
	36	Fill Fluid	Flushing	N/A	N/A			
	37	Capillary material			N/A			
	38	Capillary type	Capillary length	NA	NA			
Manifold	39							
	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L			
Accessories	42	Trim material			Hastelloy C			
	43	LCD Display	Display scale	Internal	VTA			
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156			
Purchase	46							
	47	Manufacturer			VTA			
	48	Model			TBA			
	49	Client Reference	Requisition No.	Item				
50 Material Code								

See notes
Notes:

							INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status		ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1

INSTRUMENT SPECIFICATION

Pressure Transmitter



شركة أبوظبي للعمليات البترولية المعرفة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)



Sheet 57 of 73

General Data	1	Tag Number			11-71-PT -1055H -19						
	2	Service			Water Injection to Well 1055						
	3	P/ID No.	Pip. class		P11569.11.71.08.1613	151440Y					
	4	Line Number	Equipment No		4"-IW-3134-151440-Y						
	5	SIL	<input type="checkbox"/> SIL =N.A.								
Operating Conditions	6	Fluid	Fluid Density		Water	1172	kg/m ³				
	7	Sour Service	Special Conditions		Yes						
	8	Op. press.	Oper. temp.		141.5 bar-g		75 °C				
	9	Design press.	Min.	Max.			255 bar-g				
	10	Design temp.	Min.	Max.	0 °C		150 °C				
Transmitter	11	Instrument type			Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 200	bar Gage				
	13	Zero adj.	Span adj.		External	External					
	14	OVERRANGE prot.	Load		Yes	600 ohm					
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes					
	16	Power supply			24 Vdc(2 wire)						
	17	Output signal			4 - 20 mA(HART)						
	18	Element type			Diaphragm						
	19	Material			Hastelloy C						
	20	Body rating			VTA						
	21	Op. temp. limits	Amb. temp effect		VTA	VTA					
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone					
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al					
	25	Vent	Drain		NA	NA					
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)					
	27	Cable gland	No								
	28	Mounting bracket			2" SS Pipe Mounting						
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)					
	31										
Diaphragm Seal	32	Size & rating			NA						
	33	Seal type	Ext. length		N/A	N/A					
	34	Diaphragm(s) material			N/A						
	35	Housing material			N/A						
	36	Fill Fluid	Flushing		N/A	N/A					
Manifold	37	Capillary material			N/A						
	38	Capillary type	Capillary length		NA	NA					
	39										
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F					
	41	Body material			SS316L						
	42	Trim material			Hastelloy C						
	43	LCD Display	Display scale		Internal	VTA					
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX					
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156						
	46										
	47	Manufacturer			VTA						
	48	Model			TBA						
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION			
						Pressure Transmitter			
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE				
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL				
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW				
ADCO Doc.No.: 11.99.40.1605						Code:1303	Rev.: 1		

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons INTEGRITY INSIGHTS  ALSA

Sheet 58 of 73

General Data	1	Tag Number		11-71-PT -1055J -29		
	2	Service		CO2 to Electric Heater E-1055J-01 Upstream		
	3	P&ID No.	Pip. class	P11569.11.71.08.1602		251011-20-X
	4	Line Number	Equipment No	8"-CG-0656-251011-20-X		
	5	SIL			<input checked="" type="checkbox"/> SIL 2	
Operating Conditions	6	Fluid	Fluid Density	Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions	Yes		
	8	Op. press.	Oper. temp.	224 bar-g	58 °C	
	9	Design press.	Min. Max.		278 bar-g	
	10	Design temp.	Min. Max.	-19 °C	85 °C	
Transmitter	11	Instrument type		Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA bar Gage	0 To 350	bar Gage
	13	Zero adj.	Span adj.	External	External	
	14	OVERRANGE prot.	Load	Yes	600 ohm	
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span	Yes	
	16	Power supply		24 Vdc(2 wire)		
	17	Output signal		4 - 20 mA(HART)		
	18	Element type		Diaphragm		
	19	Material		Hastelloy C		
	20	Body rating		VTA		
	21	Op. temp. limits	Amb. temp effect	VTA	VTA	
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone	
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain	NA	NA	
26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)		
27	Cable gland		No			
28	Mounting bracket		2" SS Pipe Mounting			
29	Area classification		Zone 1, Gas group IIB, Temperature Class T3			
30	Ingress Protection	Certification	IP65	EEx(ia)		
31						
Diaphragm Seal	32	Size & rating		NA		
	33	Seal type	Ext. length	NA	N/A	
	34	Diaphragm(s) material		N/A		
	35	Housing material		N/A		
	36	Fill Fluid	Flushing	NA	N/A	
	37	Capillary material		NA		
	38	Capillary type	Capillary length	NA	NA	
39						
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F	
	41	Body material		SS316L		
	42	Trim material		Hastelloy C		
Accessories	43	LCD Display	Display scale	Internal	VTA	
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement		Required as per NACE MR 01-75/ISO 15156		
	46					
Purchase	47	Manufacturer		VTA		
	48	Model		TBA		
	49	Client Reference	Requisition No.	Item		
	50	Material Code				

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
Rev No	Date	By	Chk	Appr	Status	
ADCO Doc.No.: 11.99.40.1605						Code:1303
						Rev.: 1

شركة أبوظبي للعمليات البترولية المعرفة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 **WorleyParsons**  **ALSA**
Engineering Services LLC

Sheet 59 of 73

General Data	1	Tag Number			11-71-PT -1055J -02		
	2	Service			CO2 injection to Well 1055		
	3	P&ID No.	Pip. class		P11569.11.71.08.1613		251011-20-X
	4	Line Number	Equipment No		6"-CG-0605-251011-20-X-H		
	5	SIL			<input checked="" type="checkbox"/> SIL		SIL 2
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300	bar Gage
	13	Zero adj.	Span adj.	External	External		
	14	OVERRANGE prot.	Load	Yes	600 ohm		
	15	Accuracy	RFI Protection	$\pm 0.1\%$ of Calibrated Span	Yes		
	16	Power supply	24 Vdc(2 wire)				
	17	Output signal	4 - 20 mA(HART)				
	18	Element type	Diaphragm				
	19	Material	Hastelloy C				
	20	Body rating	VTA				
	21	Op. temp. limits	Amb. temp effect	VTA	VTA		
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent		
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone		
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al		
	25	Vent	Drain	NA	NA		
26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
27	Cable gland	No					
28	Mounting bracket	2" SS Pipe Mounting					
29	Area classification	Zone 1, Gas group IIB, Temperature Class T3					
30	Ingress Protection	Certification	IP65	EEx(ia)			
31							
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length	N/A	N/A		
	34	Diaphragm(s) material			N/A		
	35	Housing material			N/A		
	36	Fill Fluid	Flushing	N/A	N/A		
	37	Capillary material			N/A		
	38	Capillary type	Capillary length	NA	NA		
	39						
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F		
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale	Internal	VTA		
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX		
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	
ADCO Doc.No.: 11.99.40.1605						Code:1303
						Rev.: 1

شركة أبوظبي للعمليات الجوية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA

Engineering & Construction Co. LLC
Sheet 60 of 73

General Data	1	Tag Number		11-71-PT -1055J -30			
	2	Service		CO2 injection to Well 1055			
	3	P&ID No.	Pip. class	P11569.11.71.08.1613		251011-20-X	
	4	Line Number	Equipment No	6"-CG-0605-251011-20-X-H			
	5	SIL	<input checked="" type="checkbox"/> SIL		SIL 2		
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997 kg/m ³	
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300 bar Gage	
	13	Zero adj.	Span adj.		External	External	
	14	OVERRANGE prot.	Load	Yes	600 ohm		
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span		Yes	
	16	Power supply			24 Vdc(2 wire)		
	17	Output signal			4 - 20 mA(HART)		
	18	Element type			Diaphragm		
	19	Material			Hastelloy C		
	20	Body rating			VTA		
	21	Op. temp. limits	Amb. temp effect	VTA		VTA	
	22	Process flange mat.	Packing material	NA		Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid	Glass Filled TFE		Silicone	
	24	Bolts material	Housing material	VTA		Epoxy Coated Low Cu Al	
	25	Vent	Drain	NA		NA	
26	Process conn.	Electrical conn.	1/2" NPT-F		ISO M20 X 1.5 (2 Nos)		
27	Cable gland	No					
28	Mounting bracket	2" SS Pipe Mounting					
29	Area classification	Zone 1, Gas group IIB, Temperature Class T3					
30	Ingress Protection	Certification	IP65		EEx(ia)		
31							
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length	N/A		N/A	
	34	Diaphragm(s) material			N/A		
	35	Housing material			N/A		
	36	Fill Fluid	Flushing	N/A		N/A	
	37	Capillary material			N/A		
	38	Capillary type	Capillary length	NA		NA	
	39						
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F		
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale	Internal	VTA		
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	
ADCO Doc.No.: 11.99.40.1605						Code:1303 Rev.: 1

شركة أبوظبي للعمليات الجذلانية (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons resources & energy  ALSA ENGINEERING & CONTRACTING CO. L.L.C.

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General Data	1	Tag Number			11-71-PT -1055J -06				
	2	Service			CO2 Injection Choke Valve Downstream of Well 1055				
	3	P&ID No.	Pip. class		P11569.11.71.08.1613		251011-20-X		
	4	Line Number	Equipment No		6"-CG-0606-251011-20-X-H				
	5	SIL	<input checked="" type="checkbox"/> SIL SIL 2						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	OVERRANGE prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply	24 Vdc(2 wire)						
	17	Output signal	4 - 20 mA(HART)						
	18	Element type	Diaphragm						
	19	Material	Hastelloy C						
	20	Body rating	VTA						
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket	2" SS Pipe Mounting						
	29	Area classification	Zone 1, Gas group IIB, Temperature Class T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
Manifold	39								
	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material	SS316L						
Accessories	42	Trim material	Hastelloy C						
	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
Purchase	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	Pressure Transmitter	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303
							Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons  ALSA
Energy & Chemicals LLC

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General Data	1	Tag Number			11-71-PT -1055J -31		
	2	Service			CO2 Injection Choke Valve Downstream of Well 1055		
	3	P&ID No.	Pip. class		P11569.11.71.08.1613	251011-20-X	
	4	Line Number	Equipment No		6"-CG-0606-251011-20-X-H		
	5	SIL			<input checked="" type="checkbox"/> SIL	SIL 2	
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		204 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 300	bar Gage
	13	Zero adj.	Span adj.	External		External	
	14	Overrange prot.	Load	Yes		600 ohm	
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span		Yes	
	16	Power supply			24 Vdc(2 wire)		
	17	Output signal			4 - 20 mA(HART)		
	18	Element type			Diaphragm		
	19	Material			Hastelloy C		
	20	Body rating			VTA		
	21	Op. temp. limits	Amb. temp effect	VTA		VTA	
	22	Process flange mat.	Packing material	NA		Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid	Glass Filled TFE		Silicone	
	24	Bolts material	Housing material	VTA		Epoxy Coated Low Cu Al	
	25	Vent	Drain	NA		NA	
26	Process conn.	Electrical conn.	1/2" NPT-F		ISO M20 X 1.5 (2 Nos)		
27	Cable gland	No					
28	Mounting bracket	2" SS Pipe Mounting					
29	Area classification	Zone 1, Gas group IIB, Temperature Class T3					
30	Ingress Protection	Certification	IP65		EEx(ia)		
31							
Diaphragm Seal	32	Size & rating	NA				
	33	Seal type	Ext. length	N/A		N/A	
	34	Diaphragm(s) material			N/A		
	35	Housing material			N/A		
	36	Fill Fluid	Flushing	N/A		N/A	
	37	Capillary material			N/A		
	38	Capillary type	Capillary length	NA		NA	
	39						
Manifold	40	Type	Size & rating	With 2 - Way Manifold		1/2" NPT-F	
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale	Internal		VTA	
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.		ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

Notes: See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	شركة أبوظبي للعمليات البحرية (أدنوك) Abu Dhabi Company for Onshore Oil Operations (ADCO)
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303
						Sheet 63	of 73
						ALSA	ALSA CONSULTING ENGINEERS LLC

General Data	1	Tag Number			11-71-PT -1055W -13				
	2	Service			Well 1055 Vent Line Pressure				
	3	P&ID No.	Pip. class		P11569.11.71.08.1613	251011-20-X			
	4	Line Number	Equipment No		4"-CG-0609-251011-20-X-H				
	5	SIL	<input type="checkbox"/> SIL =N.A.						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		204 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-19 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 300	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Purchase	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter	Sh. 64 of 73 Abu Dhabi Company for Onshore Oil Operations (ADCO) WorleyParsons ALSA
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	ADCO Doc.No.: 11.99.40.1605	Code:1303 Rev.: 1
Rev No	Date	By	Chk	Appr	Status		

General Data	1	Tag Number			11-76-PT -3600-09				
	2	Service			MOV 3600-01 Upstream Vent line Pressure				
	3	P&ID No.	Pip. class		P11569.11.76.08.1609	253021-X			
	4	Line Number	Equipment No		4"-CG-0577-253021-X				
	5	SIL	<input type="checkbox"/> SIL						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		224 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-95 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 350	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Accessories	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION	
						Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE		
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL		
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW		
ADCO Doc.No.: 11.99.40.1605						Code:1303	Rev.: 1

شركة أبوظبي للعمليات الجوية المحدودة (أدو)
Abu Dhabi Company for Onshore O&G Operations (ADCO)

 WorleyParsons  ALSA
Engineering & Construction Co. LLC

Sheet 65 of 73

General Data	1	Tag Number		11-76-PT -3600-10				
	2	Service		MOV 3600-01 Downstream Vent line Pressure				
	3	P&ID No.	Pip. class	P11569.11.76.08.1609		253021-X		
	4	Line Number	Equipment No	4"-CG-0578-253021-X				
	5	SIL	<input type="checkbox"/> SIL					
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997 kg/m³		
	7	Sour Service	Special Conditions		Yes			
	8	Op. press.	Oper. temp.		224 bar-g	58 °C		
	9	Design press.	Min.	Max.		278 bar-g		
	10	Design temp.	Min.	Max.	-95 °C	85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter			
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 350 bar Gage		
	13	Zero adj.	Span adj.		External	External		
	14	OVERRANGE prot.	Load	Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes		
	16	Power supply			24 Vdc(2 wire)			
	17	Output signal			4 - 20 mA(HART)			
	18	Element type			Diaphragm			
	19	Material			Hastelloy C			
	20	Body rating			VTA			
	21	Op. temp. limits	Amb. temp effect	VTA	VTA			
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone			
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain	NA	NA			
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland			No			
	28	Mounting bracket			2" SS Pipe Mounting			
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3			
	30	Ingress Protection	Certification	IP65	EEx(ia)			
	31							
Diaphragm Seal	32	Size & rating			NA			
	33	Seal type	Ext. length	N/A	N/A			
	34	Diaphragm(s) material			N/A			
	35	Housing material			N/A			
	36	Fill Fluid	Flushing	N/A	N/A			
	37	Capillary material			N/A			
	38	Capillary type	Capillary length	NA	NA			
Manifold	39							
	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L			
Accessories	42	Trim material			Hastelloy C			
	43	LCD Display	Display scale	Internal	VTA			
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156			
Purchase	46							
	47	Manufacturer			VTA			
	48	Model			TBA			
	49	Client Reference	Requisition No.	Item				
	50	Material Code						

See notes
Notes:

							INSTRUMENT SPECIFICATION	
							Pressure Transmitter	
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status		ADCO Doc.No.: 11.99.40.1605	Code:1303
								Rev.: 1

شركة أبوظبي للعمليات البترولية الدولية (أدو)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons
TOTAL ENERGY

 ALSA
Engineering Construction

Sheet 66 of 73

General Data	1	Tag Number		11-76-PT -3600-11		
	2	Service		MOV 3600-02 Upstream Vent line Pressure		
	3	P&ID No.	Pip. class	P11569.11.76.08.1610	253021-X	
	4	Line Number	Equipment No		4"-CG-0579-253021-X	
	5	SIL	<input type="checkbox"/> SIL =N.A.			
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997 kg/m³
	7	Sour Service	Special Conditions		Yes	
	8	Op. press.	Oper. temp.		224 bar-g	58 °C
	9	Design press.	Min.	Max.		278 bar-g
	10	Design temp.	Min.	Max.	-95 °C	85 °C
Transmitter	11	Instrument type			Electronic Smart Transmitter	
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 350 bar Gage
	13	Zero adj.	Span adj.	External	External	
	14	OVERRANGE prot.	Load	Yes	600 ohm	
	15	Accuracy	RFI Protection	±0.1% of Calibrated Span	Yes	
	16	Power supply			24 Vdc(2 wire)	
	17	Output signal			4 - 20 mA(HART)	
	18	Element type			Diaphragm	
	19	Material			Hastelloy C	
	20	Body rating			VTA	
	21	Op. temp. limits	Amb. temp effect	VTA	VTA	
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone	
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain	NA	NA	
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 X 1.5 (2 Nos)	
	27	Cable gland			No	
	28	Mounting bracket			2" SS Pipe Mounting	
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3	
	30	Ingress Protection	Certification	IP65	EEx(ia)	
	31					
Diaphragm Seal	32	Size & rating			NA	
	33	Seal type	Ext. length	NA	N/A	
	34	Diaphragm(s) material			N/A	
	35	Housing material			N/A	
	36	Fill Fluid	Flushing	NA	N/A	
	37	Capillary material			N/A	
	38	Capillary type	Capillary length	NA	NA	
	39					
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F	
	41	Body material			SS316L	
	42	Trim material			Hastelloy C	
Accessories	43	LCD Display	Display scale	Internal	VTA	
	44	Hydrostatic testing	Certification	Yes, 1.5 times Design Press.	ATEX	
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156	
	46					
Purchase	47	Manufacturer			VTA	
	48	Model			TBA	
	49	Client Reference	Requisition No.	Item		
	50	Material Code				

See notes
Notes:

						INSTRUMENT SPECIFICATION Pressure Transmitter
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303
						Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 WorleyParsons INGENIERIE CONSULTANT

 ALSA ENGINEERING & CONSTRUCTION CO. LLC

Sheet 67 of 73

General Data	1	Tag Number			11-76-PT -3600-12				
	2	Service			MOV 3600-02 Downstream Vent line Pressure				
	3	P&ID No.	Pip. class		P11569.11.76.08.1610	253021-X			
	4	Line Number	Equipment No		4"-CG-0580-253021-X				
	5	SIL	<input type="checkbox"/> SIL						
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³		
	7	Sour Service	Special Conditions		Yes				
	8	Op. press.	Oper. temp.		224 bar-g		58 °C		
	9	Design press.	Min.	Max.			278 bar-g		
	10	Design temp.	Min.	Max.	-95 °C		85 °C		
Transmitter	11	Instrument type			Electronic Smart Transmitter				
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 350	bar Gage		
	13	Zero adj.	Span adj.		External	External			
	14	Overrange prot.	Load		Yes	600 ohm			
	15	Accuracy	RFI Protection		±0.1% of Calibrated Span	Yes			
	16	Power supply			24 Vdc(2 wire)				
	17	Output signal			4 - 20 mA(HART)				
	18	Element type			Diaphragm				
	19	Material			Hastelloy C				
	20	Body rating			VTA				
	21	Op. temp. limits	Amb. temp effect		VTA	VTA			
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent			
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone			
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al			
	25	Vent	Drain		NA	NA			
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 X 1.5 (2 Nos)			
	27	Cable gland	No						
	28	Mounting bracket			2" SS Pipe Mounting				
	29	Area classification			Zone 1, Gas group IIB, Temperature Class T3				
	30	Ingress Protection	Certification		IP65	EEx(ia)			
	31								
Diaphragm Seal	32	Size & rating			NA				
	33	Seal type	Ext. length		N/A	N/A			
	34	Diaphragm(s) material			N/A				
	35	Housing material			N/A				
	36	Fill Fluid	Flushing		N/A	N/A			
Manifold	37	Capillary material			N/A				
	38	Capillary type	Capillary length		NA	NA			
	39								
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F			
	41	Body material			SS316L				
	42	Trim material			Hastelloy C				
Purchase	43	LCD Display	Display scale		Internal	VTA			
	44	Hydrostatic testing	Certification		Yes, 1.5 times Design Press.	ATEX			
	45	NACE Requirement			Required as per NACE MR 01-75/ISO 15156				
	46								
Purchase	47	Manufacturer			VTA				
	48	Model			TBA				
	49	Client Reference	Requisition No.	Item					
	50	Material Code							

See notes
Notes:

Rev No	Date	By	Chk	Appr	Status	INSTRUMENT SPECIFICATION		Sheet 68 of 73
						Pressure Transmitter		
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	WorleyParsons		ALSA
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	ADCO Doc.No.: 11.99.40.1605		Code:1303 Rev.: 1

شركة أبوظبي للعمليات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

WorleyParsons  ALSA 

General Data	1	Tag Number			44-76-PT -3901-18						
	2	Service			CO2 from Rumaitha Tie in						
	3	P&ID No.	Pip. class		P11569.44.21.08.1605	251503-X					
	4	Line Number	Equipment No		8"-CG-0575-251503-X						
	5	SIL	<input type="checkbox"/> SIL =N.A.								
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m ³				
	7	Sour Service	Special Conditions		Yes						
	8	Op. press.	Oper. temp.		224 bar-g	58 °C					
	9	Design press.	Min.	Max.	320 bar-g						
	10	Design temp.	Min.	Max.	49 °C	150 °C					
Transmitter	11	Instrument type			Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range		VTA To VTA bar Gage	0 To 350	bar Gage				
	13	Zero adj.	Span adj.		External	External					
	14	OVERRANGE prot.	Load		Yes	600 ohm					
	15	Accuracy	RFI Protection		±0.1% of FS	Yes					
	16	Power supply			24V dc(2 Wire)						
	17	Output signal			4-20 mA (HART)						
	18	Element type			Diaphragm						
	19	Material			Hastelloy C						
	20	Body rating			VTA						
	21	Op. temp. limits	Amb. temp effect		Mfr. Std.	VTA					
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone					
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al					
	25	Vent	Drain		None	None					
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 x 1.5 (2 Nos)					
	27	Cable gland	No								
	28	Mounting bracket			2" SS Pipe Mounting						
	29	Area classification			Zone 1 Group IIB T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)					
	31										
Diaphragm Seal	32	Size & rating			NA						
	33	Seal type	Ext. length		N/A	N/A					
	34	Diaphragm(s) material			NA						
	35	Housing material			NA						
	36	Fill Fluid	Flushing		NA	NA					
Manifold	37	Capillary material			NA						
	38	Capillary type	Capillary length		NA	NA					
	39										
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F					
	41	Body material			SS316L						
	42	Trim material			Hastelloy C						
Purchase	43	LCD Display	Display scale		Internal	VTA					
	44	Hydrostatic testing	Certification		Yes, 1.5 times design Press.	ATEX					
	45	NACE Requirement			Required, As per NACE MR-0175 latest edition						
	46										
Purchase	47	Manufacturer			VTA						
	48	Model			TBA						
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

See notes
Notes:

					INSTRUMENT SPECIFICATION					
					Pressure Transmitter					
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE					
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL					
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW					
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303	Rev.: 1		

General Data	1	Tag Number			44-76-PT -3901-19		
	2	Service			CO2 Pipeline Pressure		
	3	P&ID No.	Pip. class		P11569.44.21.08.1605		251011-20-XPL
	4	Line Number	Equipment No		8"-CG-4601-251011-20-XPL		
	5	SIL			<input checked="" type="checkbox"/> SIL		SIL 2
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2	997	kg/m³
	7	Sour Service	Special Conditions		Yes		
	8	Op. press.	Oper. temp.		224 bar-g	58 °C	
	9	Design press.	Min.	Max.		278 bar-g	
	10	Design temp.	Min.	Max.	-19 °C	85 °C	
Transmitter	11	Instrument type			Electronic Smart Transmitter		
	12	Instrument Range	Instr. Calibrated range	VTA To VTA	bar Gage	0 To 350	bar Gage
	13	Zero adj.	Span adj.		External	External	
	14	OVERRANGE prot.	Load		Yes	600 ohm	
	15	Accuracy	RFI Protection		±0.1% of FS	Yes	
	16	Power supply			24V dc(2 Wire)		
	17	Output signal			4-20 mA (HART)		
	18	Element type			Diaphragm		
	19	Material			Hastelloy C		
	20	Body rating			VTA		
	21	Op. temp. limits	Amb. temp effect		Mfr. Std.	VTA	
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent	
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone	
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al	
	25	Vent	Drain		None	None	
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 x 1.5 (2 Nos)	
	27	Cable gland			No		
	28	Mounting bracket			2" SS Pipe Mounting		
	29	Area classification			Zone 1 Group IIB T3		
	30	Ingress Protection	Certification		IP65	EEx(ia)	
31							
Diaphragm Seal	32	Size & rating			NA		
	33	Seal type	Ext. length		N/A	N/A	
	34	Diaphragm(s) material			NA		
	35	Housing material			NA		
	36	Fill Fluid	Flushing		NA	NA	
	37	Capillary material			NA		
	38	Capillary type	Capillary length		NA	NA	
	39						
Manifold	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F	
	41	Body material			SS316L		
	42	Trim material			Hastelloy C		
Accessories	43	LCD Display	Display scale		Internal	VTA	
	44	Hydrostatic testing	Certification		Yes, 1.5 times design press.	ATEX	
	45	NACE Requirement			Required, As per NACE MR-0175 latest edition		
	46						
Purchase	47	Manufacturer			VTA		
	48	Model			TBA		
	49	Client Reference	Requisition No.	Item			
	50	Material Code					

See notes
Notes:

INSTRUMENT SPECIFICATION						
Pressure Transmitter						
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303
						Rev.: 1

General Data	1	Tag Number			44-76-PT -3901-02B						
	2	Service			LP-3901 Pressure						
	3	P&ID No.	Pip. class		P11569.44.21.08.1605						
	4	Line Number	Equipment No		LP-3901						
	5	SIL	<input type="checkbox"/> SIL =N.A.								
Operating Conditions	6	Fluid	Fluid Density		Dense Phase CO2						
	7	Sour Service	Special Conditions		Yes						
	8	Op. press.	Oper. temp.		230 bar-g		58 °C				
	9	Design press.	Min.	Max.	320 bar-g						
	10	Design temp.	Min.	Max.	-19 °C		85 °C				
Transmitter	11	Instrument type			Electronic Smart Transmitter						
	12	Instrument Range	Instr. Calibrated range		VTA To VTA	bar Gage	0 To 350 bar Gage				
	13	Zero adj.	Span adj.		External		External				
	14	Overrange prot.	Load		Yes		600 ohm				
	15	Accuracy	RFI Protection		±0.1% of FS		Yes				
	16	Power supply			24V dc(2 Wire)						
	17	Output signal			4-20 mA (HART)						
	18	Element type			Diaphragm						
	19	Material			Hastelloy C						
	20	Body rating			VTA						
	21	Op. temp. limits	Amb. temp effect		Mfr. Std.	VTA					
	22	Process flange mat.	Packing material		NA	Graphlock / Equivalent					
	23	O-Rings material	Fill Fluid		Glass Filled TFE	Silicone					
	24	Bolts material	Housing material		VTA	Epoxy Coated Low Cu Al					
	25	Vent	Drain		None	None					
	26	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 x 1.5 (2 Nos)					
	27	Cable gland	No								
	28	Mounting bracket			2" SS Pipe Mounting						
	29	Area classification			Zone 1 Group IIB T3						
	30	Ingress Protection	Certification		IP65	EEx(ia)					
	31										
Diaphragm Seal	32	Size & rating			NA						
	33	Seal type	Ext. length		N/A	N/A					
	34	Diaphragm(s) material			NA						
	35	Housing material			NA						
	36	Fill Fluid	Flushing		NA	NA					
Manifold	37	Capillary material			NA						
	38	Capillary type	Capillary length		NA	NA					
	39										
Accessories	40	Type	Size & rating		With 2 - Way Manifold	1/2" NPT-F					
	41	Body material			SS316L						
	42	Trim material			Hastelloy C						
	43	LCD Display	Display scale		Internal	VTA					
Purchase	44	Hydrostatic testing	Certification		Yes, 1.5 times design Press.	ATEX					
	45	NACE Requirement			Required, As per NACE MR-0175 latest edition						
	46										
Purchase	47	Manufacturer			VTA						
	48	Model			TBA						
	49	Client Reference	Requisition No.	Item							
	50	Material Code									

See notes
Notes:

INSTRUMENT SPECIFICATION						
Pressure Transmitter						
شركة أبوظبي للعمليات الشفوية البدنية (أدو)						
Abu Dhabi Company for Onshore Oil Operations (ADCO)						
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE	
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL	
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW	
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605
						Code:1303 Rev.: 1

General Data	1	Tag Number			44-76-FT -3901-01						
	2	P&ID No.	Pip. class		P11569.44.21.08.1605		KG10-X				
	3	SIL			<input type="checkbox"/> SIL =N.A.						
Operating Conditions	4	Fluid	Fluid Density		Injection Gas	400	kg/m³				
	5	Op. press.	Oper. temp.		226 bar-g	58 °C					
	6	Design Pressure	Min.	Max.		494 bar-g					
	7	Design Temperature	Min.	Max.	-49 °C	120 °C					
	8	Flow Rate	Min : 5 MMSCFD ; Max :30 MMSCFD			0 To 35 MMSCFD					
	9	Process Calibrated Range			0 To 35 MMSCFD						
	10	Instrument type			Electronic Smart Transmitter(DP)						
	11	Instrument Range	Instr. Calibrated range		To	0 To 125 mbar					
	12	Zero adj.	Span adj.		External	External					
Diff. press. Transmitter	13	OVERRANGE prot.	RFI protection		Yes	Yes					
	14	Accuracy	AMB. TEMP. eff		±0.1% of FS	VTA					
	15	Power supply	Pneum. supply		24Vdc,2 Wire	No					
	16	Output signal	Load		4-20 mA (HART)	600 ohm					
	17	Pneum. output signal			NA						
	18	Element type	Material		Diaphragm	Hastelloy C					
	19	Body rating			VTA						
	20	Op. temp. limits			VTA						
	21	Process flange material			NA						
	22	O-Rings material	Fill Fluid		Glass filled TFE	Silicone					
	23	Bolts material	Housing material		Note-5	Epoxy coated Cu Free Al					
	24	Vent	Drain		None	None					
	25	Process conn.	Electrical conn.		1/2" NPT-F	ISO M20 x 1.5 (2 Nos)					
	26	Pneum. conn.	Cable gland		NA	No					
	27	Mounting bracket			2" SS Pipe Mounting						
	28	Area classification			Zone 1, Gas group IIB, Temperature Class T3						
	29	Ingress Protection	Certification		IP65	EEx(ia)					
Diaphragm Seal	30	Quantity	Size & rating		NA	NA					
	31	Seal type	Ext. length		N/A	NA					
	32	Diaphragm(s) material			NA						
	33	Upper housing material			NA						
	34	Lower housing material			NA						
	35	Fill Fluid	Flushing		NA	NA					
	36	Capillary material			NA						
Manifold	37	Capillary type	Capillary length		NA	NA					
	38	Type	Size & rating		With 5 Way Manifold	1/2" NPT-F					
	39	Body material			SS316L						
Accessories	40	Trim material	Packing material		Hastelloy C	Graphlock/Equivalent					
	41	LCD Display	Dispaly Scale		Internal	VTA					
	42	Air set regulator			NA						
	43	Integral orif.	NACE Requirement		No	Yes as per NACE MR 01-75					
	44	Hydrostatic testing			Yes, 1.5 times design Press.						
Purchase	45	Certification			ATEX						
	46	Manufacturer			VTA						
	47	Model			TBA						
	48	Client Reference	Requisition No	Item							
	49	Material Code									

Notes: See notes

						INSTRUMENT SPECIFICATION		
						DP Flow Transmitter		
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No.	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code: 1201	Rev.: 1

General Data	1	Tag Number		44-76-PT -3901-01	
	2	Service		LP-3901 Pressure	
	3	P&ID No.	Pip. class	P11569.44.21.08.1605	KG10-X
	4	Line Number	Equipment No	6"-IG-6530-KG10-X-H	
	5	SIL		<input type="checkbox"/> SIL =N.A.	
Operating Conditions	6	Fluid	Fluid Density		Injection Gas 400 kg/m³
	7	Sour Service	Special Conditions		Yes
	8	Op. press.	Oper. temp.		408 bar-g 80 °C
	9	Design press.	Min.	Max.	494 bar-g
	10	Design temp.	Min.	Max.	-49 °C 120 °C
Transmitter	11	Instrument type		Electronic Smart Transmitter	
	12	Instrument Range	Instr. Calibrated range	VTA To VTA bar Gage	0 To 550 bar Gage
	13	Zero adj.	Span adj.	External	External
	14	OVERRANGE prot.	Load	Yes	600 ohm
	15	Accuracy	RFI Protection		±0.1% of FS Yes
	16	Power supply		24V dc(2 Wire)	
	17	Output signal		4-20 mA (HART)	
	18	Element type		Diaphragm	
	19	Material		Hastelloy C	
	20	Body rating		VTA	
	21	Op. temp. limits	Amb. temp effect	Mfr. Std.	VTA
	22	Process flange mat.	Packing material	NA	Graphlock / Equivalent
	23	O-Rings material	Fill Fluid	Glass Filled TFE	Silicone
	24	Bolts material	Housing material	VTA	Epoxy Coated Low Cu Al
	25	Vent	Drain	None	None
	26	Process conn.	Electrical conn.	1/2" NPT-F	ISO M20 x 1.5 (2 Nos)
	27	Cable gland		No	
	28	Mounting bracket		2" SS Pipe Mounting	
	29	Area classification		Zone 1 Group IIB T3	
	30	Ingress Protection	Certification	IP65	EEx(ia)
	31				
Diaphragm Seal	32	Size & rating		NA	
	33	Seal type	Ext. length	N/A	N/A
	34	Diaphragm(s) material		NA	
	35	Housing material		NA	
	36	Fill Fluid	Flushing	NA	NA
	37	Capillary material		NA	
	38	Capillary type	Capillary length	NA	NA
	39				
Manifold	40	Type	Size & rating	With 2 - Way Manifold	1/2" NPT-F
	41	Body material		SS316L	
	42	Trim material		Hastelloy C	
Accessories	43	LCD Display	Display scale	Internal	VTA
	44	Hydrostatic testing	Certification	Yes,1.5 times design Press.	ATEX
	45	NACE Requirement		Required,As per NACE MR-0175 latest edition	
	46				
Purchase	47	Manufacturer		VTA	
	48	Model		TBA	
	49	Client Reference	Requisition No.	Item	
	50	Material Code			

See notes
Notes:

						INSTRUMENT SPECIFICATION		
						Pressure Transmitter		
1	01/12/2014	YANN	PARP	MATJ	ISSUED FOR PURCHASE			
B	30/10/2014	YANN	PARP	MATJ	ISSUED FOR APPROVAL			
A	26/09/2014	YANN	PARP	MATJ	ISSUED FOR REVIEW			
Rev No	Date	By	Chk	Appr	Status	ADCO Doc.No.: 11.99.40.1605	Code:1303	Rev.: 1

شركة أبوظبي لل操業ات البترولية المحدودة (أدنوك)
Abu Dhabi Company for Onshore Oil Operations (ADCO)

 **WorleyParsons**
Engineering & Construction Co. LLC

 **ALSA**
Engineering & Construction Co. LLC

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