

PetroChad (Mangara) Limited

A GLENCORE Company

Vendor Document Cover Sheet

Vendor Name:	Alderley				
Purchase Order Title:	Mangara Produced Water Treatment Upgrade				
Equipment / Tag Number:	DOB-MAN-Z-4010				
Vendor Document No:	29647W-00-E-0917-01				
Vendor Issue Record					
02	11/09/19	Reissued for review	MT	JB	MA
01	19/07/19	Issued for Review	MT	CD	AT
Rev	Date	Issue Status	Originator	Verifier	Approver

Document Title
Instrument Data Sheet

Glencore Document Details							
Document Number	P3048	PO	416441	TCD	MAN	E09	0001
	PROJECT	PO NUMBER		COUNTRY	ASSET-BLOCK	DOCUMENT TYPE	SEQUENCE
Issue Status	Issued for review				Revision	02	
					Revision Date	15/07/2019	

Vendor Document Review				
<p>Purchaser's review of Vendor's documents does not relieve Vendor of the responsibility for correctness under the Purchase Order. Permission to proceed does not constitute acceptance of design, detail and calculations, test methods or materials developed or selected by the Vendor and does not relieve the Vendor from full compliance with the Purchase Order or any other obligations, nor detract from any of the Purchaser's rights.</p>				
Code	1	2	3	4
Name	Chris Hicks			
Signature				
Date	27/Sep/19			
Code 1	Reviewed with No comments (approved)			
Code 2	Reviewed with Comments (revise and re-submit, work may proceed subject to incorporation of changes indicated)			
Code 3	Revise and re-submit (work may NOT proceed)			
Code 4	Not Reviewed (for information only)			
<p>IMPORTANT Should the Vendor consider that any comments made by the Purchaser change the Scope of Supply, the Vendor shall advise the price and delivery implications of such changes within five working days of receipt. The Vendor must not incorporate such changes without prior approval of the Purchaser of the revised price and/or delivery period. RETROSPECTIVE CLAIMS WILL NOT BE CONSIDERED.</p>				
The document consists of this front sheet plus 3 pages.				

ALDERLEY SYSTEMS LIMITED

PROJECT NAME:

MANGARA FFD GAS FLOTATION

CUSTOMER:

PETROCHAD (MANGARA)LTD

CUSTOMER PO No.:

PO-416441**LEVEL GAUGE**

ASL DOC No.:

29647W-00-E-0917

SHEET No.:

1 OF 3

ASL PROJECT No.:

29647W

SHEET TITLE:

LG-1

SHEET 1 OF 1

REVISION:

02

REV	BY	CHKD	APPR	DATE	REVISION
01	MT	CD	AT	19.7.19	ISSUED FOR REVIEW
02	MT	JB	MA	11.9.19	REISSUED FOR REVIEW
03					
04					
05					
06					

GENERAL	1	Tag Number.	DOB-MAN- LG-40110 WITH DOB-MAN-LZT-40109		DOB-MAN-LG-40113 WITH DOB-MAN-LZT-40112		
	2	Service	LIQUID		LIQUID		
	3	Line No./Vessel No.	GAS FLOTATION VESSEL		GAS FLOTATION VESSEL		
	4	Function	LOCAL LEVEL GAUGE AND TX		LOCAL LEVEL GAUGE AND TX		
GENERAL	5	Gauge Type	Magnetic Level Gauge		Magnetic Level Gauge		
	6	Body Material.	316SS		316SS		
	7	Float Material	316SS		316SS		
	8	Bolting Material	316SS		316SS		
	9	Process Connection Size / Rating	2" 300#		2" 300#		
	10	Connection Type	FLANGED RF		FLANGED RF		
	11	Flange Centres	1400mm		879mm		
	12	Indicator Scale/Ruler	Red/White Barograph		Red/White Barograph		
	13	Gauge Cocks Connection / Size	2" 300#		2" 300#		
	14	Vent	Drain	1" 300#	1" 300#	1" 300#	1" 300#
	15	Ball Checks	Renewable Seats	n/a	n/a	n/a	n/a
	16	Sour Service (Nace Req.):	n/a		n/a		
	17	Haz. Area Class	Zone 1 IIB T3		Zone 1 IIB T3		
FLUID DATA	18	Fluid.	Hydrocarbon Liquid		Hydrocarbon Liquid		
	19	Max. Temp.	Min. Temp.	100° C	0° C	100° C	0° C
	20	Max. Press.	Min. Press.	10 Barg	FV	10 Barg	FV
	21	Oper Press.	Oper Temp.	0.8 Barg	60° C	0.8 Barg	60° C
	22	Operating Spec.Gravity	0.996 to 1.006		0.996 to 1.006		
	23						
TRANSMITTER	24	Transmitter Output.	4 to 20mA smart/hart		4 to 20mA smart/hart		
	25	Enclosure Class	Exd, IIB, T3, IP65		Exd, IIB, T3, IP65		
	26	Electrical Entry	2 x M20x1.5		2 x M20x1.5		
	27	HART Req.:	Yes		Yes		
	28	Fieldbus Req.:	No		No		
	29	Profibus Req.:	No		No		
ALARM SWITCH	30	Quantity	n/a		n/a		
	31	Form	Rating	n/a	n/a	n/a	n/a
	32	Enclosure Class	n/a		n/a		
	33	Electrical Entry	n/a		n/a		
TESTING	34						
	35	Pressure Test Complete Assy.	1.5 Times Design		1.5 Times Design		
	36	Material Certs 3.1	Yes		Yes		
37							
	38	Manufacturer.	WIKA		WIKA		
	39	Gauge Model No.	ZT3752.00		ZT3752.00		
	40	Tx Model No.	BLM-S-FFG-BP.20H3OD-UTK48-1,400		BLM-S-FFG-BP.20H3OD-UTK48-879		

Notes: Min Ambient temperature :+4° C to +44° C

LZT-40109 ALARM POINTS: HH:1240mm, 9.4mA & LL:870mm, 4.63mA.(ELEVATION FROM DATUM 821mm) (NOZZLES N11A,N11B)

LZT-40112 ALARM POINTS: HH:1650mm, 17.09mA & LL:350mm, 4.48mA.(ELEVATION FROM DATUM 300mm) (NOZZLES N13A, N13B)

3.1 CERTS REQUIRED

FACTORY CALIBRATION REQUIRED

ALDERLEY SYSTEMS LIMITED



PROJECT NAME: MANGARA FFD GAS FLOTATION
 CUSTOMER: PETROCHAD (MANAGARA) LTD
 CUSTOMER PO No.: PO-416441

PRESSURE TRANSMITTER

ASL DOC No.: **29647W-00-E-0917**
 SHEET No.: **2 OF 3**
 ASL PROJECT No.: **29647W**
 SHEET TITLE: **PIT-1**
 SHEET 1 OF 1
 REVISION: **02**

REV	BY	CHKD	APPR	DATE	REVISION
01	MT	CD	AT	19.07.19	ISSUED FOR REVIEW
02	MT	JB	MA	11.09.19	REISSUED FOR REVIEW
03					
04					
05					
06					

1. Tag No.: **DOB-MAN-PZT-40117 & DOB-MAN-PIT-40118** Service: **GAS FLOTATION VESSEL**

GENERAL

2. Indication: Blind Digital Analog Other: INTEGRAL DISPLAY

3. Case: Mfr. Std. Material: EPOXY PAINTED ALUMINIUM Colour: Mfr. Std. Other: _____
 Electrical Entry: M20 X 1.5

4. Mounting: Direct Yoke 2" Pipe Other: _____

5. Enclosure Class: General Purpose Weatherproof Rating _____
 Flame/Explosionproof For use in I.S. System Haz. Area Class ZONE 1 IIB T3(IP65)

6. Power Supply: AC V. _____ Hz. DC 24 V. (Nom.)

7. Scale: Type: Linear Sq. Rt. Range 1. FV TO 2.0 BARG Range 2. N/A Range 3. N/A

TRANSMITTER

8. Tx Output: 4-20mA 10-50mA 21-103 kPa (3-15Psig) Other: _____
 SMART HART Accuracy 0.05% OF SPAN ACCURACY
 'FIELDBUS' 'PROFIBUS' Other: _____

9. SIL Requirement: SIL 1 SIL 2 SIL 3 SIL FEMDA CERTIFICATE FOR ESD EQUIPMENT

UNIT

10. Service: Gauge Pressure Vacuum Absolute Compound

11. Element type: Diaphragm Bellows Helix Bourdon Other: CAPILLARY

12. Material: Body: 316 Element: 316 Nace to MR-01-75 (Latest) reqd.

13. Rating: Overrange: 1.5 X DESIGN Body Rating: MIN 300#

14. Range: Fixed Adj Range: FV TO 20 BARG Set at: FV TO 2.0 BARG Elev.: _____ Suppr.: _____

15. Process Data: Fluid: Hydrocarbon Gas Amb. Temp.: +4 TO +44 °C Humidity: 100%
 Max/Min Pressure: 10 BARG TO FV Design Press.: 10/FV Barg Op. Press.: 0.8 Barg
 Max/Min Temp.: 100° C TO 0° C Design Temp.: 100/0° C Op. Temp.: 60° C

16. Process Conn.: 1/2" NPT(F) 1/4" NPT(F) Other _____
 Location: Bottom Back Other _____
 Diaphragm Seal Size: VTA (2") Diaph. Mat'l.: 316L Flange Mat'l.: 316L
 Connection: Flange 2" RF 300# Capillary Length: 4 Meters (TBC) Material: 316L
 Other: _____

SPECIALS / OPTIONS

17. Options: Filter/Regulator Supply Gauge Output Gauge
 Direct Mount 2 valve Manifold Mat'l.: _____ Fixing Bolt Mat'l.: Manufacturers std
 Other: CHEMICAL SEAL AND FLUSHING RING REQUIRED FOR CALIBRATION PURPOSES(Tapped and plugged vent/drain)

18. Tag: Tag Plate Mat'l.: 316 Tag Size: STANDARD Fixing Method: SCREWED/RIVET

19. Mfr & Mod. No. **Yokogawa EJX530A-JBS4N-019EL/KU22/D3/X2/N4**

Notes:
 PZT-40117 ALARM POINTS HH=1.4 BARG, SET IN THE CLIENT DCS.
 PIT-40118 ALARM POINTS H=1.1 BARG & L=0.5BARG, SET IN THE CLIENT DCS.
 3.1 CERTS REQUIRED
 FACTORY CALIBRATION REQUIRED

ALDERLEY SYSTEMS LIMITED



PROJECT NAME: MANGARA FFD GAS FLOTATION
 CUSTOMER: PETROCHAD (MANGARA) LTD
 CUSTOMER PO No.: PO-416441

DIFF. PRESSURE TRANSMITTER

REV	BY	CHKD	APPR	DATE	REVISION
01	MT	CD	AT	19.7.19	ISSUED FOR REVIEW
02	MT	JB	MA	11.9.19	REISSUED FOR REVIEW
03					
04					
05					
06					

ASL DOC No.: **29647W-00-E-0917**
 SHEET No.: **3 OF 3**
 ASL PROJECT No.: **29647W**
 SHEET TITLE: **PDT-1**
 SHEET 1 of 1
 REVISION: **02**

1. Tag No.: **DOB-MAN-LIT-40108 & DOB-MAN-LIT-40111** Service: **GAS FLOTATION VESSEL**

GENERAL

2. Indication: Blind Digital Analog Other: INTEGRAL DISPLAY

3. Case: Mfr. Std. Material: EPOXY PAINTED ALUMINIUM Colour: Mfr. Std. Other:
 Electrical Entry: M20 X 1.5

4. Mounting: Direct Yoke 2" Pipe Other:

5. Enclosure Class: General Purpose Weatherproof Rating
 Flame/Explosionproof For use in I.S. System Haz. Area Class ZONE 1 IIB T3(IP65)

6. Power Supply: AC V. Hz. DC 24 V. (Nom.)

7. Scale: Type: Linear Sq. Rt. LIT-40108 Range 1. 0 to 1400mm/H2O LIT-40111 Range 1. 0 to 879mm/H2O Range 3. N/A

TRANSMITTER

8. Tx Output: 4-20mA 10-50mA 21-103 kPa (3-15Psig) Other:
 SMART HART Accuracy 0.05% OF SPAN ACCURACY
 'FIELDBUS' 'PROFIBUS' Other

9. SIL Requirement: SIL 1 SIL 2 SIL 3 SIL FEMDA CERTIFICATE FOR ESD EQUIPMENT

UNIT

10. Service: Differential Pressure Flow Level Other:

11. Element type: Diaphragm Bellows Helix Bourdon Other: CAPILLARY

12. Material: Body: 316 Element: 316 Nace to MR-01-75 (Latest) reqd.

13. Rating: Overrange: 1.5 X DESIGN Body Rating: MIN 300#

14. Diff. Range: Fixed Adj Range: Set at: AS ABOVE Elev.: N/A Suppr.: N/A

15. Process Data: Fluid: Hydrocarbon Liquid Amb. Temp.: +4 TO +44 °C Humidity: 100%
 Max/Min Pressure: 10 BARG TO FV Design Press.: 10/FV Barg Op. Press.: 0.8 Barg
 Max/Min Temp.: 100° C TO 0° C Design Temp.: 100/0° C Op. Temp.: 60° C

16. Process Conns.: 1/2" NPT(F) 1/4" NPT(F) Other
 HP Diaphragm Seal Size: 2" RF 300# Capillary Length: 3 METERS(TBC)
 LP Diaphragm Seal Size: 2" RF 300# Capillary Length: 3 METERS(TBC)
 Diaph. Mat'l.: 316 Flange Mat'l.: 316 Fill Liquid: MANUFACTURER STD
 Other:

SPECIALS / OPTIONS

17. Options: Filter/Regulator Supply Gauge Output Gauge
 Direct Mount 3 valve Direct Mount 5 valve Manfid. Mat'l.: Fixing Bolt Mat'l.: Manufacturers std
 Cond. Pots Integral Sq. Rt. Extract Adjustable Damping
 Other: CHEMICAL SEAL AND FLUSHING RING REQUIRED FOR CALIBRATION PURPOSES

18. Tag: Tag Plate Mat'l.: 316 Tag Size: STANDARD Fixing Method: SCREWED/RIVET

19. Mfr & Mod. No. **Yokogawa EJX110A-JMSWG-919EJ/KU22/X2/N4**

Notes:
 LIT-40108 ALARM POINTS H=1440mm, L=620mm. ELEVATION FROM DATUM 300mm, H=17.02mA, L=7.65mA SET IN CLIENTS DCS. (NOZZLE N12A,N12B)
 LIT-40111 ALARM POINTS H=1150mm, L=960mm. ELEVATION FROM DATUM 821mm, H=9.98mA, L=6.5mA SET IN CLIENTS DCS. (NOZZLE N14A,N14B)
 3.1 CERTS REQUIRED
 FACTORY CALIBRATION REQUIRED