

SIGNAL FROM LDC-3545 OF  
SECOND STAGE CRUDE  
DESALTER C-203

EFFLUENT WATER FROM  
SECOND STAGE CRUDE  
DESALTER C-203

WASH WATER BYPASS TO  
FIRST STAGE DESALTER C-202

4"-WW-2321-Q35A-HC

NOTE 2

G-203A/B/C

RECYCLE EFFLUENT WATER PUMP

FLOWRATE m<sup>3</sup>/hr (BPD) : 22.8 (3442)  
DRIVER POWER KW (HP) : 11 (14.75)  
DIFF PRESS ΔP bar (PSI) : 5.28 (76.5)  
SP GRAVITY @ OP/OT : 1.14~0.997  
FLUID VISCOSITY @ PT CP : 1.4~0.47  
OP PRESS/DES PRESS barg (PSIG) : 11.55/29 (167.5/420.5)  
OP TEMP/DESIGN TEMP °C (°F) : 68/93/-3 (154.4/200/27)  
UTC NO. :  
TRIM NO. : GT-G203A/B/C-N30B

FI 2268  
FE 2268  
NOTE 11

MIN. FLOW RECYCLE  
TO WASH WATER/  
EFFLUENT WATER  
EXCHANGER E-202

1136.002

RECYCLE EFFLUENT WATER  
TO FIRST STAGE CRUDE  
DESALTER C-202

1135.002

RECYCLE EFFLUENT WATER  
TO WASH WATER/EFFLUENT  
WATER EXCHANGER E-202

1137.002

RECYCLE EFFLUENT WATER  
TO BALANCE TANKS D-005A/B

1119.002

RECYCLE EFFLUENT WATER  
TO DESALTER FEED HEATER  
INLET F-201A

1134.003

RECYCLE EFFLUENT WATER  
TO DESALTER FEED HEATER  
INLET F-201B

1134.004

WASH WATER TO FIRST  
STAGE DESALTER C-202

1135.002

## GENERAL NOTES:

- FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
- ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 530-.
- ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PREFIXED BY 030-.
- FOR TYPICAL INSTRUMENT CONNECTION SBOV, XV, MOV AND ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1106.002, .003, .004, .005, .006 & .007.
- FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE AND GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS & CONTROL VALVES SEE DRAWING 50489-530-020-PID-1108.001 TO 1108.010.
- FOR INSTRUMENT NUMBERS SHOWN IN P&ID CONTINUATION BOXES ARE ABBREVIATED SHOWING DRAWING SEQUENTIAL NUMBERS ONLY. THE FULL FORM OF THE DRAWING NUMBER IS 50489-530-020-PID-XXXX.SHT. NO.
- FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
- DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
- PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
- LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
- FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHIL-1009.
- FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

## NOTES:

- DUPLEX STRAINERS WITH PROPER DRAINAGE TO DRAIN SYSTEM.
- SECOND STAGE CRUDE DESALTER WASH WATER BYPASS TO FIRST STAGE CRUDE DESALTER.
- THIS LINE IS USED WHEN FIRST STAGE DESALTER IS BYPASSED.
- DELETED.
- PUMPS HAVE BEEN SIZED BASED ON A WASH WATER FLOW RATE OF 12%.
- TWO PUMPS OPERATING AND ONE ON STANDBY.
- DELETED.
- FOR CORROSION MONITORING STATIONS (CMS):-
  - CMS ARE INSTALLED AS PER KOC-MP-035.
  - PROPER ACCESS PIT OR PLATFORM ARE PROVIDED FOR RETRIEVAL OF COUPEN/PROBE.
  - MATERIAL FOR CMS ARE PROCURED FROM KOC APPROVED VENDOR LIST.
  - CMS ARE LOCATED IN BOTTOM 6 O'CLOCK POSITION.
  - TAG NUMBERING OF CMS IS AS PER APPENWIX-C OF KOC-MP-035.
- ALL A/G PIPING SUPPORTS ARE FIRE PROOFED IN DESALTER AREA.
- ALL THE VALVES (MOV'S, XV'S, ESDV'S, SBOV'S) ARE FIRE SAFE IN DESALTER AREA.
- STRAIGHT LENGTH REQUIREMENT FOR ORIFICE FLOW METER ARE 20D UPSTREAM & 50 DOWNSTREAM.

## AS-BUILT

### KOC APPROVAL

NAME / KOC No:

DESIGNATION :

GROUP / TEAM :

SIGNATURE :

DATE :

## AS-BUILT

### LARSEN & TOUBRO LIMITED

NAME : VAIBHAV VERMA

DESIGNATION : AGM

SIGNATURE :


DATE : 12-Sep-2018

DEPT/ DIVISION : ENGINEERING

|      |                                     |         |         |     |     |          |
|------|-------------------------------------|---------|---------|-----|-----|----------|
| ZO   | ISSUED FOR AS-BUILT                 | BAK/SSI | AKG     | SRA | RAK | 12.09.18 |
| 01   | ISSUED FOR CONSTRUCTION             | BAK/SSI | AKG     | SRA | RAK | 07.11.16 |
| 0    | ISSUED FOR CONSTRUCTION             | SHH/VSA | AKG     | SRA | RAK | 22.03.16 |
| C    | ISSUED INCORPORATED CLIENT COMMENTS | BAK/VSA | AKG     | SRA | RAK | 21.10.15 |
| OC   | ISSUED INCORPORATED CLIENT COMMENTS | BAK/VSA | AKG     | SRA | RAK | 30.05.15 |
| B    | ISSUED INCORPORATED CLIENT COMMENTS | BAK/VSA | AKG     | SRA | RAK | 17.02.15 |
| A    | ISSUED FOR APPROVAL                 | BAK/VSA | AKG     | SRA | RAK | 05.12.14 |
| REV. | DESCRIPTION                         | DRAWN   | CHECKED | HOD | PEM | DATE     |

## CONTRACTOR REVISION

**KUWAIT OIL CO. K. S. C.**  **شركة نفط الكويت ش.م.ك.**  
A Subsidiary of Kuwait Petroleum Corporation

CONTRACTOR DETAILS:-  
 **LARSEN & TOUBRO LIMITED**  
FARIDABAD

PROJECT TITLE:-  
NEW GATHERING CENTRE GC-30  
IN NORTH KUWAIT

DOCUMENT TITLE:-  
PIPING & INSTRUMENTATION DIAGRAM  
RECYCLE EFFLUENT WATER PUMP (G-203A/B/C) TRAIN B

|             |                             |      |              |
|-------------|-----------------------------|------|--------------|
| PROJECT NO. | DRAWING NO.                 |      |              |
| EF1902      | CONTRACTOR DRG. NO.         | REV. | KOC DRG. NO. |
|             | 50489-530-020-PID-1138.002  | ZO   |              |
|             | SHEET NO. 2 OF 2            |      | SHEET NO.    |
|             | COMPANY DRG. NO.            | REV. |              |
|             | EF1902-530-DCO-PID-0138.001 | A2   |              |
|             | SHEET NO.                   |      |              |