



GENERAL NOTES:

- A. FOR STANDARD SYMBOLS AND NOMENCLATURE SEE DRAWINGS 50489-530-020-PID-1104.001 & .002.
- B. ALL EQUIPMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 530-.
- C. ALL INSTRUMENT NUMBERS SHOWN ON THIS P&ID ARE PRECEDED BY 030-.
- D. FOR TYPICAL INSTRUMENT CONNECTION SBOV, XV, MOV & ESDV DETAILS SEE DRAWINGS 50489-530-020-PID-1108.001, .002, .003, .004, .005, .006 & .007.
- E. FOR MISCELLANEOUS PIPING TYPICAL VALVING, DRAINAGE & GENERAL ARRANGEMENT OF LEVEL INSTRUMENTS, PUMPS, STRAINERS & CONTROL VALVES SEE DRAWINGS 50489-530-020-PID-1108.001 TO 1108.010.
- F. DRAWING 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.
- G. FOR MATERIAL SELECTION DIAGRAM SEE DRAWINGS 50489-530-020-MSD-1001.001 TO 1023.
- H. DETAIL NUMBERING FOR CI, SC, CC & CP SEE DRAWING 50489-530-020-PID-1108.003.
- I. PAINTING & COATING ARE IN ACCORDANCE WITH KOC-P-001.
- J. LOW POINT DRAIN & HIGH POINT VENT ARE INDICATED IN P&ID.
- K. FOR CAUSE & EFFECT REFER DOC. NO. 50489-530-020-PHL-1009.
- L. FOR ALARM VALUES REFER DOC. NO. 50489-530-020-SUM-1006.

NOTES:

- 1. CHEMICAL CLEANING CONNECTIONS. FOR CHEMICAL CLEANING SKID DETAILS REFER PID: 50489-530-020-PID-1201. CHEMICAL CLEANING CONNECTION SHALL BE NEAR TO THE SPACER.
- 2. THIS P&ID REPRESENTS FOR TRAIN-"B".
- 3. ON HIGH BS&W LEVEL OR DESALTER SHUTDOWN "DRY" CRUDE IS DIVERTED TO WET AND DUAL CRUDE TANKS.
- 4. PIPING DESIGN IS SPECIFIED SUCH THAT THE HIGHEST POINT IN THE SYSTEM IS IN THE PIPING TO AVOID VAPOUR LOCK IN THE EXCHANGER.
- 5. HEAT EXCHANGER BACKFLOW FLUSHING SYSTEM.
- 6. DELETED.
- 7. TEMPERATURE CONTROLLER IS NEEDED TO MAINTAIN HOTTER TEMPERATURE DURING WINTER IN THE DRY CRUDE STORAGE TANK TO PROMOTE DEGASSING OF THE CRUDE IN THE TANK TO MEET RVP REQUIREMENTS.
- 8. FY PROVIDES TEMPERATURE COMPENSATION FOR FQI.
- 9. PLATE HEAT EXCHANGER IS DESIGNED SUCH THAT SCALE BUILD UP IS MINIMISED BY PROVIDING SUITABLE DESIGN (eg. MULTIPLE PASSES).
- 10. CRUDE/CRUDE EXCHANGER LAYOUT DESIGN TO ALLOW MAINTENANCE ACCESS.
- 11. TANK LEVEL CONTROLLER SELECTOR IN ESD.
- 12. DELETED.
- 13. FOR MOV-2160 AND 2163. THE ONE IS OPEN AND THE OTHER IS CLOSED. ALWAYS, ONE IS OPENED FIRST AND THEN THE OTHER IS CLOSED SUBSEQUENTLY.
- 14. HEAT EXCHANGER HAS BEEN SIZED BASED ON RECYCLING OF 43% OF THE FEED BACK TO THE WET CRUDE/ DUAL CRUDE TANKS.
- 15. TWO-WAY SELECTOR SWITCH.
- 16. DELETED.
- 17. FOR DETAILS OF AUTO SAMPLER SEE P&ID 50489-530-020-PID-1108.002, 1277.001 & 1277.002.
- 18. PIPING PROBE, WITHDRAWABLE TYPE.
- 19. TENTATIVE STRAIGHT LENGTH REQUIREMENT FOR ORIFICE FLOW METER ARE 20D UPSTREAM & 5D DOWNSTREAM.
- 20. ONE SET OF SS SPOOL PIECE (ONE WET CRUDE INLET AND ONE DRY CRUDE INLET, ONE WET CRUDE OUTLET AND ONE DRY CRUDE OUTLET) SHALL BE PROVIDED AS A SPARE FOR CHEMICAL CLEANING OF PLATE EXCHANGER (E-101A/B AND E-201A/B) AND USED ONLY DURING CHEMICAL CLEANING.
- 21. NORMAL OPERATION C35B SPOOL PIECE IS USED FOR BOTH WET CRUDE AS WELL AS DRY CRUDE INLET/OUTLET.
- 22. REFER DOCUMENT NO. 50489-530-020-PHL-1013 FOR DETAIL CHEMICAL CLEANING PHILOSOPHY.
- 23. A/M :- AUTO / MANUAL

REV.	DESCRIPTION	DRAWN	CHECKED	HOD	PEM	DATE
ZO	ISSUED FOR AS-BUILT	SHH/VSA	AKG	SRA	RAK	15.08.18
O1	ISSUED FOR CONSTRUCTION	SHH/VSA	AKG	SRA	RAK	04.08.16
O	ISSUED FOR CONSTRUCTION	SHH/VSA	AKG	SRA	RAK	04.06.16
F	ISSUED INCORPORATED CLIENT COMMENTS	SHH/VSA	AKG	SRA	RAK	26.04.16
E	ISSUED INCORPORATED CLIENT COMMENTS	JSI/VSA	AKG	SRA	RAK	05.02.16
D	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	30.12.15
C	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	29.10.15
OC	ISSUED INCORPORATED CLIENT COMMENTS	BAK/ABY	AKG	SRA	RAK	02.06.15
B	ISSUED INCORPORATED CLIENT COMMENTS	BAK/VSA	AKG	SRA	RAK	17.02.15
A	ISSUED FOR APPROVAL	BAK/VSA	AKG	SRA	RAK	29.11.14

CONTRACTOR REVISION

**KUWAIT OIL CO.**  
**K. S. C.**

شركة نفط الكويت  
ش.م.ك.

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

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

DOCUMENT TITLE:- PIPING & INSTRUMENTATION DIAGRAM DESALTER FEED/DRY CRUDE EXCHANGER (E-201A/B) TRAIN B	
PROJECT NO.	DRAWING NO.
CONTRACTOR DRG. NO. 50489-530-020-PID-1132.002	REV. KOC DRG. NO. Z0
SHEET NO. 2 OF 2 COMPANY DRG. NO. EF1902-530-DCO-PID-0132.001	SHEET NO. A4
SHEET NO.	