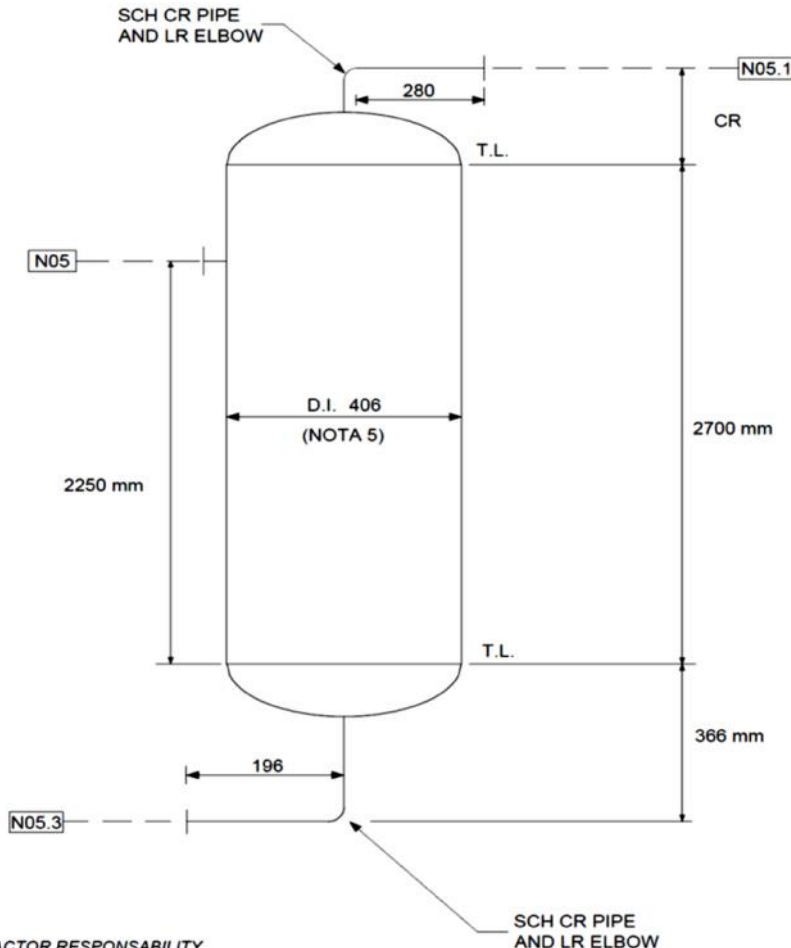


## ANEXO 2

|                                                                                   |                                                                |                                                                          |                  |                   |                 |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------|------------------|-------------------|-----------------|
|  | <h1 style="margin: 0;">14-1-MEC-DS-00001</h1>                  | <b>GIPI</b><br>GERENCIA DE INGENIERÍA,<br>PROYECTOS E<br>INFRAESTRUCTURA |                  |                   |                 |
| <b>EMPRESA</b>                                                                    | YACIMIENTOS PETROLIFEROS FISCALES BOLIVIANOS                   |                                                                          |                  |                   |                 |
| <b>LOCALIZACION</b>                                                               | PLANTA SEPARACIÓN DE LÍQUIDOS RIO GRANDE, SANTA CRUZ - BOLIVIA |                                                                          |                  |                   |                 |
| <h2 style="margin: 0;">HOJA DE DATOS</h2>                                         |                                                                |                                                                          |                  |                   |                 |
| <h1 style="margin: 0;">HOJA DE DATOS<br/>DEPURADOR DE LÍQUIDOS E-511</h1>         |                                                                |                                                                          |                  |                   |                 |
|                                                                                   |                                                                |                                                                          |                  |                   |                 |
|                                                                                   |                                                                |                                                                          |                  |                   |                 |
|                                                                                   |                                                                |                                                                          |                  |                   |                 |
| 1                                                                                 | 11/05/2018                                                     | EMITIDO PARA REVISION                                                    | RMS/YSS          | JTA               | JTA             |
| <b>REV.</b>                                                                       | <b>FECHA</b>                                                   | <b>DESCRIPCION</b>                                                       | <b>ELABORADO</b> | <b>VERIFICADO</b> | <b>APROBADO</b> |



|                                                                                                                                          |                                                          |                         |                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------|
| <div><br/><i>La fuerza que transforma Bolivia</i></div> | <div>HOJA DE DATOS<br/>DEPURADOR DE LIQUIDOS E-511</div> |                         | <div>GIPI<br/>GERENCIA DE INGENIERÍA,<br/>PROYECTOS E<br/>INFRAESTRUCTURA</div> |
|                                                                                                                                          | <div>14-1-MEC-DS-00001</div>                             | <div>HOJA: 2 DE 2</div> | <div>REV. 1</div>                                                               |

|                                                                                                                                    |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| CROQUIS                                                                                                                            |  |  |  |
| <div><p>CR: CONTRACTOR RESPONSABILITY</p></div> |  |  |  |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|
| NOTAS GENERALES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |
| <div>1. El CONTRATISTA deberá diseñar, fabricar y construir el recipiente a presión de acuerdo al Código de diseño ASME Secc. VIII, Div.1 en su ultima edición. El nuevo Depurador de Líquidos E-511 deberá tener estampa U de ASME y certificación de la NB (National Board).</div> <div>2. El CONTRATISTA deberá verificar y confirmar las dimensiones (longitudes, rating de boquillas, schedules, etc.) del recipiente a presión durante el desarrollo de ingeniería de detalle de acuerdo a los documentos As-Built de Mantenimiento (Reparación según NB-23 2015) del Depurador: MP-ING-PL-01-0817, MP-ING-IS-01-0817_1 y otros que sean necesarios. Asimismo, deberá verificar y validar la especificación de los materiales de acuerdo a las condiciones de diseño.</div> <div>3. El CONTRATISTA deberá diseñar el recipiente a presión de acuerdo a las condiciones de operación y diseño descritos en el Data Book final de fabricación del Intercambiador de Calor E-511 (MDR, etc.).</div> <div>4. La protección superficial y aislamiento térmico del recipiente a presión deberá ser de acuerdo a:<br/>- 3285-G000-634-2021-DB-900 CRITERIOS DE DISEÑO DE RECUBRIMIENTOS Y AISLAMIENTO TÉRMICO.<br/>- 3285-G100-634-2021-DB-900 ESPECIFICACIÓN DE PINTURA. (Los materiales de acero inoxidable no requieren aplicación de pintura, excepto los materiales de acero al carbono).</div> <div>5. El uso de una tubería para el cuerpo es aceptable, la determinacion del schedule es reponsabilidad del fabricante (MR). El CONTRATISTA deberá seleccionar el tipo y grado de material adecuado para los cabezales en función de método de fabricación aplicado para el mismo (plancha o fittings).</div> <div>6. La soldadura de soportes u otro accesorio de un material distinto al material del cuerpo del recipiente no es recomendable. En caso de que se deba soldar algún elemento de material distinto al del cuerpo del recipiente, se deberá soldar previamente un pad de transición del mismo material del cuerpo del recipiente.</div> <div>7. El kit de aislamiento dieléctrico (juntas aislante, tubos o manguitos aislantes para pernos, arandelas aislantes para tuercas y arandelas de acero para tuercas) deberán ser aptas para las condiciones de Servicio, Presión/Temperatura de Diseño y Operación. Las juntas serán de acuerdo a la norma ASME B16.20.</div> <div>8. El CONTRATISTA deberá definir el tipo de tratamiento superficial para los elementos apernados (espárragos y tuercas) de acuerdo a la norma ASME Secc. II, Part. A.</div> <div>9. Las bridas serán RF, Clase 300#de acuerdo ASME B16.5. El acabado de las caras de las bridas serán: 125-250 microinches.</div> <div>10. Las condiciones de diseño y operación del separador y otros datos necesarios para la verificacion del dimensionamiento del mismo se encuentran en el documento 3285-A340-633-3213-DS-001 y en el data book final del vendor.</div> <div>11. El CONTRATISTA deberá verificar el tipo de cabezal (Elíptico 2:1) seleccionado para el recipiente de acurdo al data book final del vendor y el documento 3285-A340-633-3213-DS-001.</div> |  |  |  |

LINDE ENGINEERING DIVISION  
LICHEN PLANT D-83342 TACHERTING

SCHEIDT CHEN PLANT D-83342 TACHERTING

| CHAMBER | MAX. ALLOWABLE<br>WORKING PRESSURE<br>PSI at °F | MAX. ALLOWABLE EXTERNAL<br>WORKING PRESSURE<br>PSI at °F | MIN. DESIGN METAL<br>TEMPERATURE<br>°F at PSI |
|---------|-------------------------------------------------|----------------------------------------------------------|-----------------------------------------------|
| I       |                                                 |                                                          |                                               |
| II      |                                                 |                                                          |                                               |
| III     | 500                                             | +150                                                     | -105                                          |
| IV      |                                                 |                                                          | 500                                           |
| V       |                                                 |                                                          |                                               |
| VI      |                                                 |                                                          |                                               |
| VII     |                                                 |                                                          |                                               |
| VIII    |                                                 |                                                          |                                               |
| IX      |                                                 |                                                          |                                               |
| X       |                                                 |                                                          |                                               |
| XI      |                                                 |                                                          |                                               |
| XII     |                                                 |                                                          |                                               |

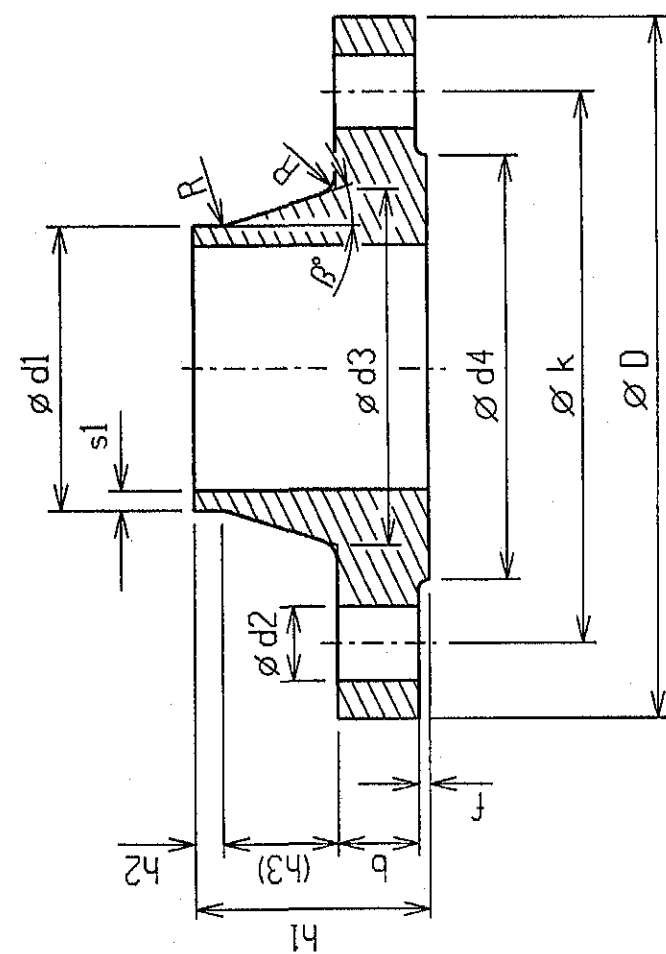
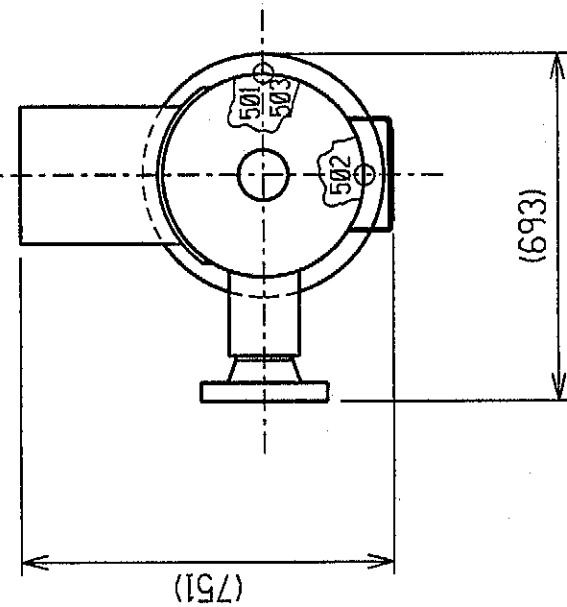
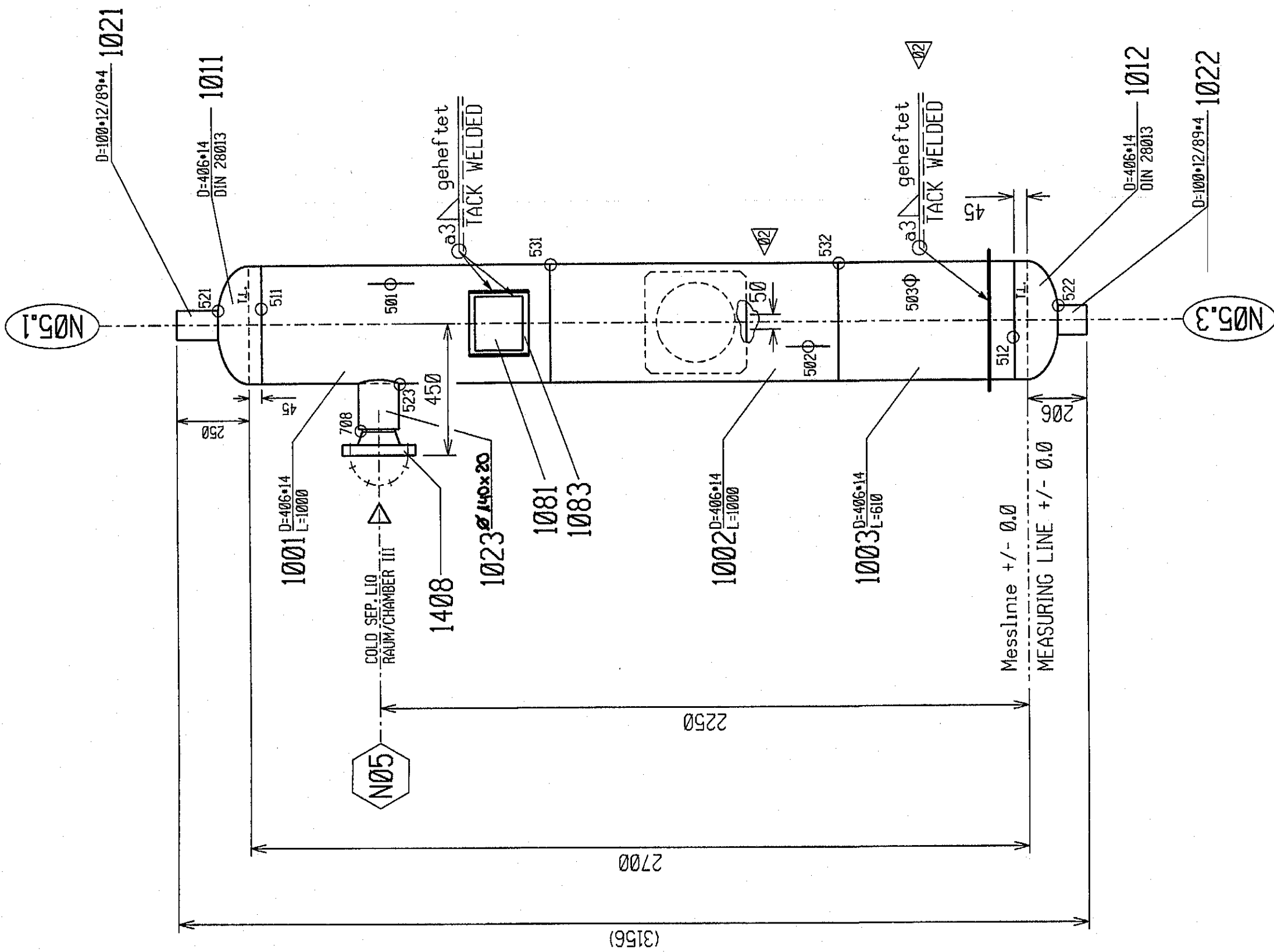
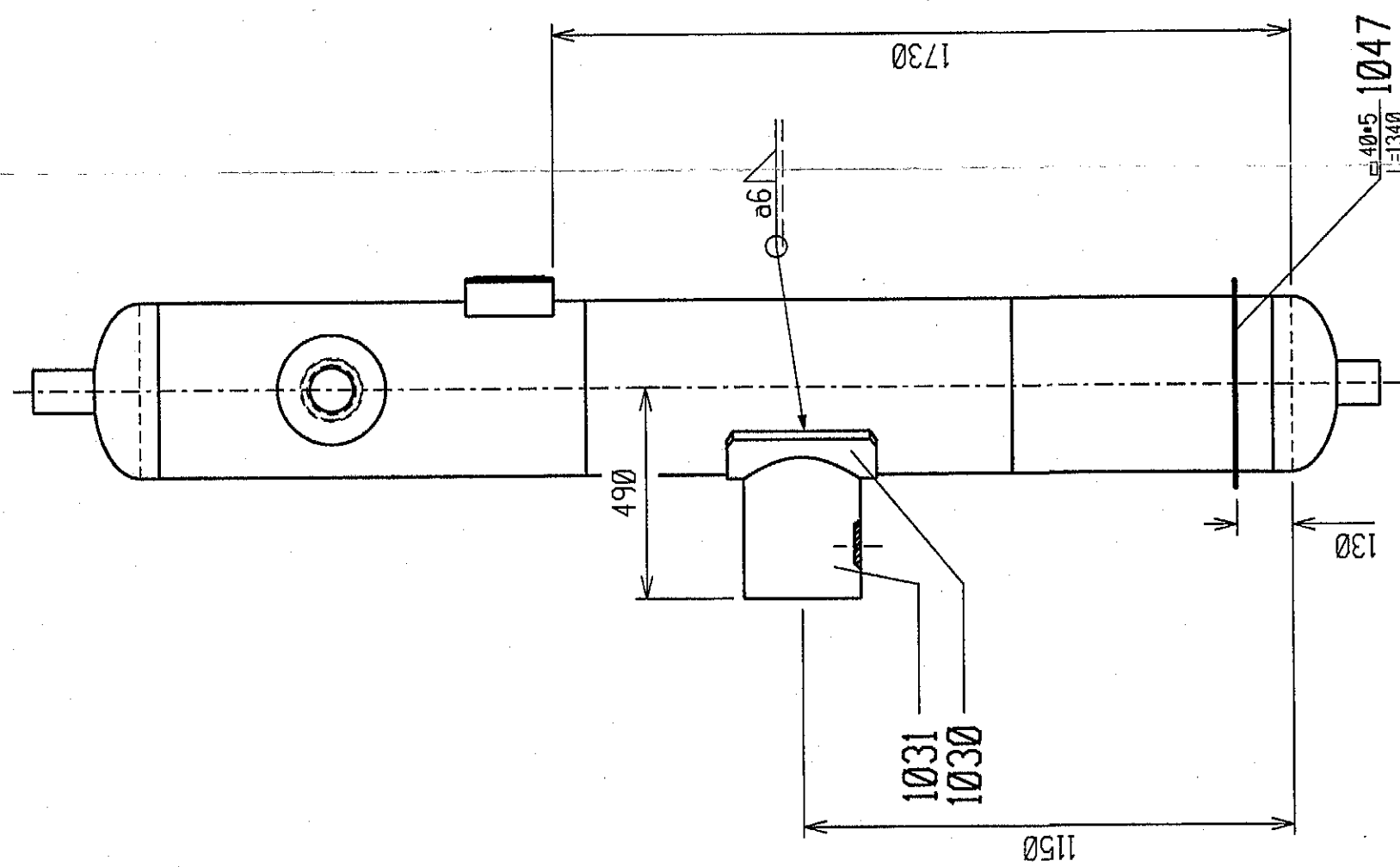
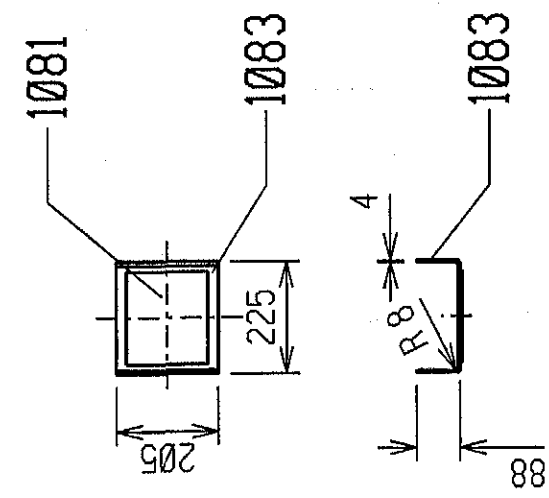
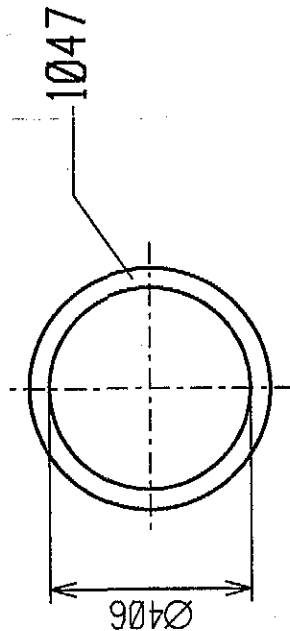
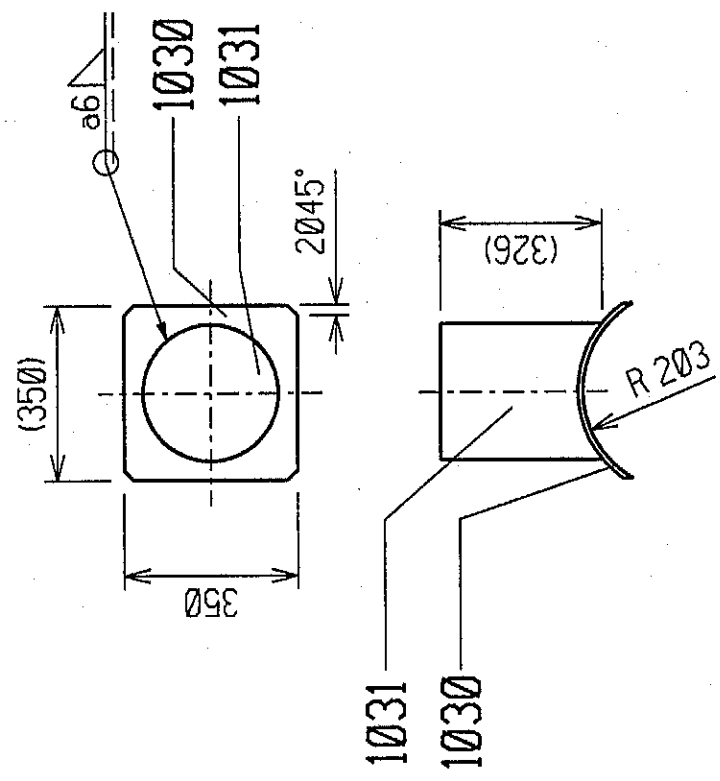
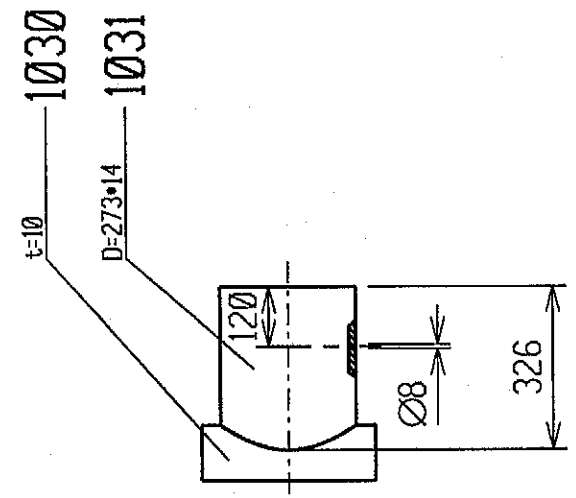
MFR'S  
 SERIAL NO.  
 ITEM NO.:

54498

YEAR BUILT

Schriftgrösse min. 4mm / HEIGHT OF LETTERS MIN. 4 MM

\*\*\*\*  
Jahr der Druckprüfung  
YEAR OF PRESSURE TEST



Oberflächen / SURFACES  $\nabla$   $R_z=100$   
 ausgenommen Dichtfläeche / WITHOUT FACINGS

Dichtflaeche / FACINGS : AARH 125-250  $\mu$ inch

Schrauben und Dichtungen gehören nicht zum Lieferumfang von LINDE  
BOLTS AND GASKETS NOT INCLUDED IN LINDE SCOPE OF SUPPLY

# AS BUILT

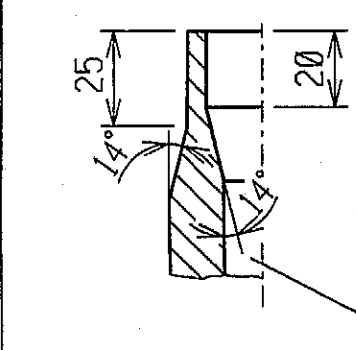
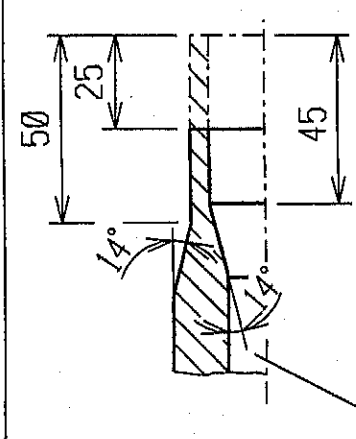
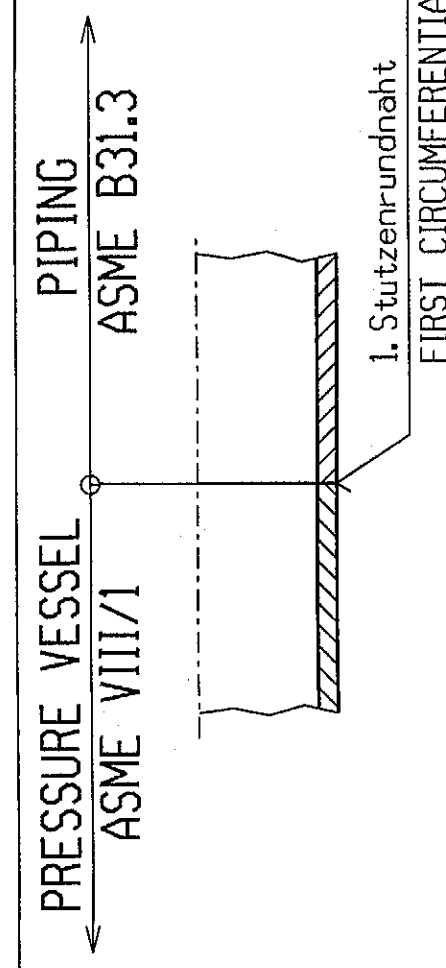
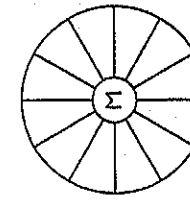
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NON CORROSIVE SERVICE

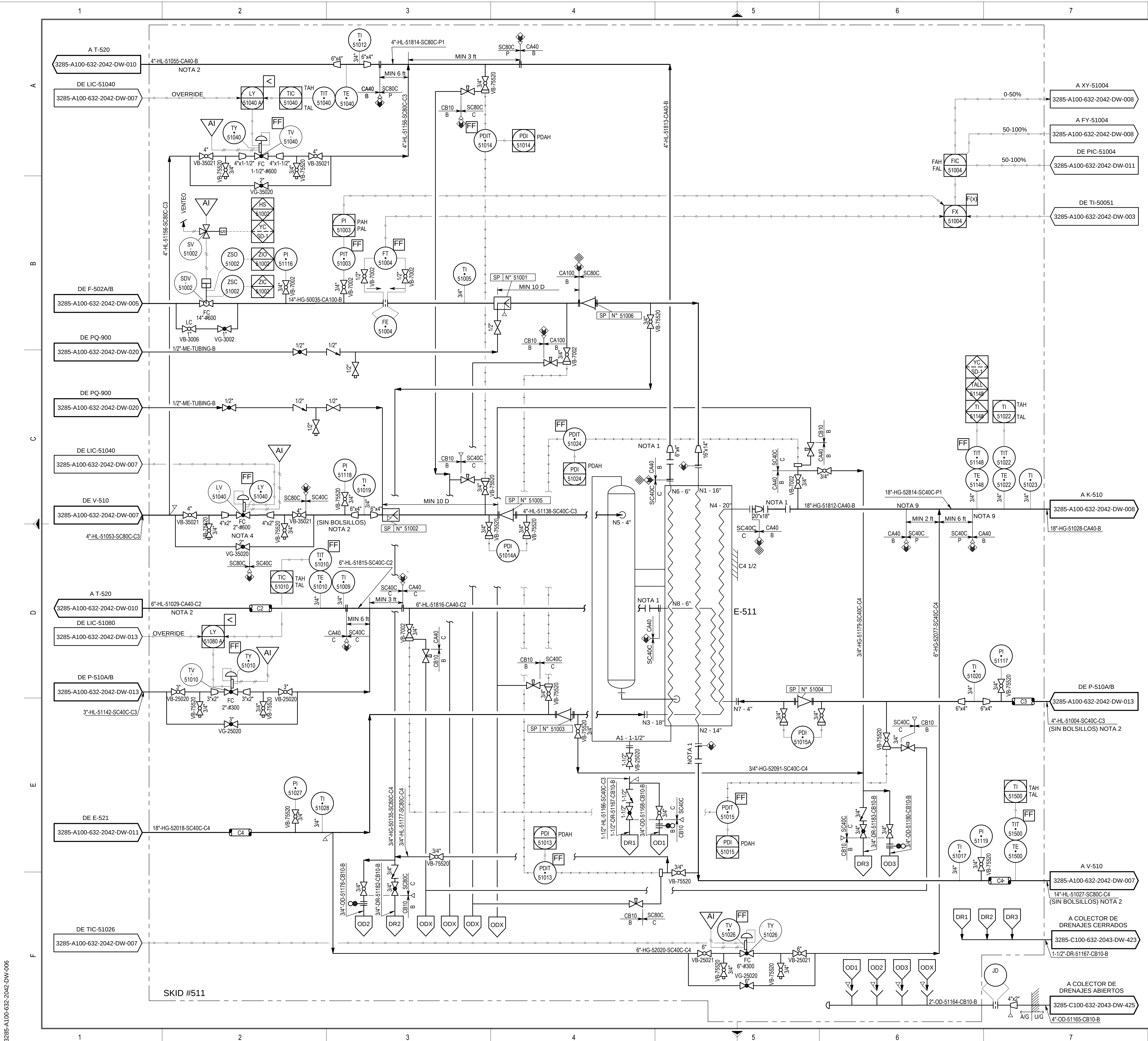
**\*\*ASMF-U\*\***

THIS DOCUMENT CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION NOT TO BE



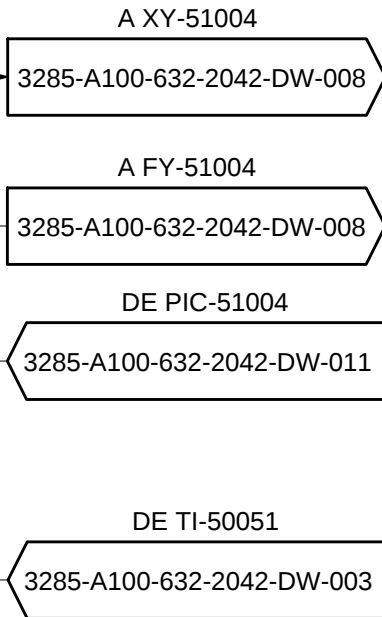
1021.1022

1023



LISTA DE EQUIPOS

E-511  
PREENFRIADOR DE GAS  
Q = 38.99 MMBTU/h  
Pd = 860 psig / 500 psig / 440 psig  
Td = -105/116 F  
AISLACIÓN: SI - POR FRÍO



NOTAS

- 1.- SPOOL REMOVIBLE PARA LIMPIEZA.
- 2.- FLUJO BIFÁSICO.
- 3.- ELIMINADA.
- 4.- LOCALIZAR LA VÁLVULA DE CONTROL A UNA DISTANCIA MÍNIMA DE LA CONEXIÓN DE ENTRADA DEL E-511.
- 5.- ELIMINADA.
- 6.- ELIMINADA.
- 7.- ELIMINADA.
- 8.- ELIMINADA.
- 9.- EL CAMBIO DE CLASE OCURRE EN LA JUNTA SOLDADA.

REFERENCIAS

- 1.- PLANOS DE SIMBOLOGÍA 3285-G100-632-2024-DW-001/002/003/004.
- 2.- PLANO DE FABRICANTE: 2120 B-ZE 1001.001/002/003/004/005.

|     |                   |          |        |        |        |
|-----|-------------------|----------|--------|--------|--------|
| CAO | CONFORME A OBRA   | 26/07/13 | SM     | JD     | ER     |
| 1   | PARA CONSTRUCCIÓN | 06/03/12 | BB/PP  | ER/RC  | LR/RG  |
| 0   | PARA CONSTRUCCIÓN | 15/12/11 | BB/PP  | ER/RC  | LR/RG  |
| B   | PARA APROBACIÓN   | 18/08/11 | BB/PP  | ER/RC  | LR/RG  |
| A   | PARA COMENTARIOS  | 25/04/11 | JS/BB  | ER/RC  | LR/RG  |
| REV | DENOMINACIÓN      | FECHA    | DIBUJO | REVISO | APROBO |



CLIENTE:



OBM: 3285

|                                                                                                                |   |          |          |          |          |  |                                             |  |        |              |
|----------------------------------------------------------------------------------------------------------------|---|----------|----------|----------|----------|--|---------------------------------------------|--|--------|--------------|
| ESTE DOCUMENTO CONTIENE INFORMACIÓN PROPIEDAD DE AESA E YPFB. SU REPRODUCCIÓN TOTAL O PARCIAL, ESTÁ PROHIBIDA. |   |          |          |          | PROYECTO |  | PLANTA DE SEPARACION DE LIQUIDOS RIO GRANDE |  |        |              |
|                                                                                                                |   |          |          |          | TITULO   |  | ENFRIAMIENTO DE GAS                         |  |        |              |
| INICIAL                                                                                                        | - | SM       | JD       | ER       | AES A N° |  | 3285-A100-632-2042-DW-006                   |  | ESCALA | VERSION      |
| FECHA                                                                                                          | - | 26/07/13 | 26/07/13 | 26/07/13 |          |  |                                             |  | S/E    | REVISION CAO |
| FRMA                                                                                                           |   |          |          |          |          |  |                                             |  |        |              |
| GUARDADO EN AUTOCAD 2008 NO MODIFICAR MANUALMENTE                                                              |   |          |          |          |          |  |                                             |  |        |              |



|      |                   |            |         |        |        |
|------|-------------------|------------|---------|--------|--------|
| 2    | PARA CONSTRUCCIÓN |            | PP      | ER     | LR/RG  |
| 1    | PARA CONSTRUCCIÓN | 03/09/2012 | PP      | ER     | LR/RG  |
| 0    | PARA CONSTRUCCIÓN | 12/12/2011 | OP      | ER     | LR/RG  |
| B    | PARA APROBACIÓN   | 18/08/2011 | PP      | ER     | LR/RG  |
| REV. | DESCRIPCIÓN       | FECHA      | REALIZO | REVISO | APROBO |





OBM 3285

ESTE DOCUMENTO CONTIENE INFORMACIÓN PROPIEDAD DE AESA E YPFB, SU REPRODUCCIÓN TOTAL O PARCIAL ESTA PROHIBIDA.

PROYECTO:  
  
PLANTA DE SEPARACIÓN DE LIQUIDOS RIO GRANDE

|         |            |            |            |                                |
|---------|------------|------------|------------|--------------------------------|
|         | REALIZO    | REVISO     | APROBO     | TITULO:<br><br>LISTA DE LINEAS |
| INICIAL | PP         | ER         | LR/RG      |                                |
| FECHA   | 07/09/2012 | 07/09/2012 | 07/09/2012 |                                |

|       |  |  |  |               |                           |         |          |
|-------|--|--|--|---------------|---------------------------|---------|----------|
| FIRMA |  |  |  | DOC. AESA N°: | 3285-A100-632-2045-LL-100 | PAGINAS | VERSIÓN  |
|       |  |  |  |               |                           | 1 de 22 | 2        |
|       |  |  |  |               |                           |         | REVISIÓN |
|       |  |  |  |               |                           |         | 2        |

|                            |        |                                                                                   |                            |                                                                           |                             |                        |                                 |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|------------------------|---------------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                        |                                 |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 1 de 21         |          |
|                            |        |                                                                                   |                            |                                                                           |                             |                        |                                 |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                   |                            |                                                                           |                             |                        |                                 |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                   |                            |                                                                           |                             |                        |                                 |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                           |                             |                        |                                 |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                           |                             |                        |                                 |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                  | Hasta                           | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | CD     | 51061                                                                             | SC16C                      | P                                                                         | 1                           | CABEZAL                | COLECTOR DE DREN CERRADOS FRIOS | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 29.84              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | CD     | 51071                                                                             | SC16C                      | P                                                                         | 1                           | 2"-HL-51073-SC80C-C4   | 2"-CD-51139-SC16C-P1            | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | CD     | 51079                                                                             | SC16C                      | P                                                                         | 1                           | 2"-HL-51077-SC80C-C3   | 2"-CD-51081-SC16C-P1            | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | CD     | 51081                                                                             | SC16C                      | P                                                                         | 1                           | CABEZAL DE RECOLECCIÓN | COLECTOR DE DREN CERRADOS FRIOS | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | CD     | 51121                                                                             | SC16C                      | B                                                                         | -                           | 2"-HL-51120-SC16C-B    | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | CD     | 51139                                                                             | SC16C                      | P                                                                         | 1                           | CABEZAL DE RECOLECCIÓN | COLECTOR DE DREN CERRADOS FRIOS | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 3/4"                       | CD     | 51170                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HL-51168-SC40C-C3 | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                       | CD     | 51173                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HL-51171-SC40C-C3 | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                       | CD     | 51184                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HG-52092-SC40C-C3 | 3/4"-CD-51186-SC16C-P1          | 3285-A100-632-2042-DW-011 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                       | CD     | 51185                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HG-52095-SC40C-C3 | 3/4"-CD-51184-SC16C-P1          | 3285-A100-632-2042-DW-011 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                       | CD     | 51186                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HG-52098-SC40C-C4 | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-011 | LÍQUIDO         | 28.68              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                         | CD     | 52063                                                                             | SC16C                      | P                                                                         | 1                           | 2"-HL-51062-SC40C-C3   | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 3/4"                       | CD     | 52085                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HL-52084-SC40C-C3 | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                       | CD     | 52088                                                                             | SC16C                      | P                                                                         | 1                           | 3/4"-HL-52087-SC40C-C3 | 2"-CD-51061-SC16C-P1            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64              | -190           | 104            | -148                    | 134                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 1"                         | DR     | 01002                                                                             | CB10                       | B                                                                         | -                           | 1"-HL-01004-CA40-B     | COLECTOR DE DRENAJES CERRADOS   | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 1"                         | DR     | 01005                                                                             | CB10                       | B                                                                         | -                           | 1"-DR-01007-CA20-B     | COLECTOR DE DRENAJES CERRADOS   | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 1"                         | DR     | 01007                                                                             | CA20                       | B                                                                         | -                           | V-012 (SKID #010)      | 1"-DR-01005-CB10-B              | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 95             | 91                      | 125                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 01049                                                                             | CB10                       | B                                                                         | -                           | CABEZAL                | COLECTOR DE DRENAJES CERRADOS   | 3285-A100-632-2042-DW-022 | LÍQUIDO         | ELIMINADA          |                |                |                         |                      |                             |                          |                |                          |                         | B        |
| 2"                         | DR     | 50043                                                                             | SC80                       | H                                                                         | 1                           | V-502                  | LV-50069                        | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 61.86              | 54             | 120            | 91                      | 150                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 1        |
| 2"                         | DR     | 50044                                                                             | CB10                       | B                                                                         | -                           | LV-50069               | TK-820                          | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 61.86              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 50045                                                                             | SC80                       | H                                                                         | 1                           | V-502                  | 2"-DR-50458-CB10-B              | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 61.86              | 54             | 120            | 91                      | 150                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 1        |
| 2"                         | DR     | 50046                                                                             | CB10                       | B                                                                         | -                           | 2"-DR-50045-SC80-H1    | COLECTOR DE DRENAJES CERRADOS   | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 61.86              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 1        |
| 2"                         | DR     | 50078                                                                             | CB10                       | B                                                                         | -                           | 2"-HL-50075-CA100-B    | 2"-DR-50132-CB10-B              | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 50079                                                                             | CB10                       | B                                                                         | -                           | 2"-HL-50076-CA100-B    | 2"-DR-50132-CB10-B              | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 50132                                                                             | CB10                       | B                                                                         | -                           | CABEZAL                | COLECTOR DE DRENAJES CERRADOS   | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 1        |
| 2"                         | DR     | 50417                                                                             | CB10                       | B                                                                         | -                           | 2"-HL-54052-CA40-H1    | 2"-DR-55032-CB10-B              | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.38              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 50430                                                                             | CB10                       | B                                                                         | -                           | 2"-HL-50423-CA20-B     | COLECTOR DE DRENAJES CERRADOS   | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23              | 54             | 104            | 104                     | 134                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8001                    | 2        |
| 2"                         | DR     | 50431                                                                             | CA100H                     | H                                                                         | 1 1/2                       | V-501 A                | 2"-DR-50432-CB10-B              | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                         | DR     | 50432                                                                             | CB10                       | B                                                                         | -                           | 2"-DR-50431-CA100H-H2  | 2"-DR-50440-CB10-B              | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 50434                                                                             | CA100H                     | H                                                                         | 1 1/2                       | V-501 B                | 2"-DR-50435-CB10-B              | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                         | DR     | 50435                                                                             | CB10                       | B                                                                         | -                           | 2"-DR-50434-CA100H-H2  | 2"-DR-50440-CB10-B              | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                         | DR     | 50437                                                                             | CA100H                     | H                                                                         | 1 1/2                       | V-501 C                | 2"-DR-50438-CB10-B              | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                         | DR     | 50438                                                                             | CB10                       | B                                                                         | -                           | 2"-DR-50437-CA100H-H2  | 2"-DR-50440-CB10-B              | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |

|                                                        |        |                                                                                                                                   |                            |                                                                                                 |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|--------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------|-----------------------------|-------------------------|-------------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div><div>DOCUMENTO AESA N°</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div></div> <div>3285-A100-632-2045-LL-100</div> |                            | <div>PROYECTO:</div> <div>OBM 3285</div> <div>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE</div> |                             |                         |                               |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 2 de 21         |          |
|                                                        |        |                                                                                                                                   |                            |                                                                                                 |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                                                        |        |                                                                                                                                   |                            |                                                                                                 |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                                                        |        |                                                                                                                                   |                            |                                                                                                 |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
|                                                        |        |                                                                                                                                   |                            | LISTA DE LÍNEAS                                                                                 |                             |                         |                               |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
| Diámetros (in)                                         | Fluido | Número de línea                                                                                                                   | Especificación de Material | Tipo de aislamiento                                                                             | Espesor de aislamiento (in) | Desde                   | Hasta                         | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                                                     | DR     | 50440                                                                                                                             | CB10                       | B                                                                                               | -                           | CABEZAL                 | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 3/4"                                                   | DR     | 50469                                                                                                                             | CB10                       | B                                                                                               | -                           | 3/4"-HL-50468-CA100-B   | DRENAJE DR3                   | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 50478                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-50474-CA100-B     | 2"-DR-50482-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 91             | 91                      | 120                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 50479                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-50475-CA100-B     | 2"-DR-50482-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 91             | 91                      | 120                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 50480                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-50476-CA100-B     | 2"-DR-50482-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 91             | 91                      | 120                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 50481                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-50477-CA100-B     | 2"-DR-50482-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 91             | 91                      | 120                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 50482                                                                                                                             | CB10                       | B                                                                                               | -                           | CABEZAL                 | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 91             | 91                      | 120                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 51076                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-51074-CA40-B      | 2"-DR-51083-CB10-B            | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 51083                                                                                                                             | CB10                       | B                                                                                               | -                           | CABEZAL                 | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1               | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 1 1/2"                                                 | DR     | 51167                                                                                                                             | CB10                       | B                                                                                               | -                           | 11/2"-HL-51166-SC40C-C3 | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 32.6               | 54             | 91             | 91                      | 120                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                                                   | DR     | 51182                                                                                                                             | CB10                       | B                                                                                               | -                           | 3/4"-HG-50135-SC80C-C4  | 11/2"-DR-51167-CB10-B         | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                                                   | DR     | 51183                                                                                                                             | CB10                       | B                                                                                               | -                           | 3/4"-HG-51179-SC40C-C4  | 11/2"-DR-51167-CB10-B         | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 28.68              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 52041                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-52038-CA40-P1     | 2"-DR-52044-CB10-B            | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.58              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 52044                                                                                                                             | CB10                       | B                                                                                               | -                           | CABEZAL                 | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.58              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 52048                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-52046-CA40-P1     | 2"-DR-52044-CB10-B            | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.58              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 52051                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-52050-CA40-P1     | 2"-DR-52044-CB10-B            | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.35              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 54039                                                                                                                             | CA40                       | B                                                                                               | -                           | V-540                   | 2"-DR-54041-CB10-B            | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65              | 54             | 135            | 125                     | 175                  | 195                         | 235                      | HIDROSTATICA   | 352.5                    | 8001                    | 2        |
| 2"                                                     | DR     | 54041                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-DR-54039-CA40-B      | 2"-DR-55048-CB10-B            | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 32.61              | 54             | 135            | 125                     | 175                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 54054                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-54047-CA40-H1     | 2"-DR-55032-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.38              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 54055                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-54048-CA40-H1     | 2"-DR-55032-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.28              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 55022                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-55024-CA20-H1     | 2"-DR-55032-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.57              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 55027                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-HL-55025-CA20-H1     | 2"-DR-55032-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.66              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 55028                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-DR-55030-CA20-H1     | 2"-DR-55032-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.66              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 55030                                                                                                                             | CA20                       | H                                                                                               | 1 1/2                       | T-550                   | 2"-DR-55028-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.66              | 54             | 230            | 91                      | 260                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 55032                                                                                                                             | CB10                       | B                                                                                               | -                           | DRENAJES CERRADOS       | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 32.66              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 1        |
| 2"                                                     | DR     | 55038                                                                                                                             | CA20                       | P                                                                                               | 1                           | V-550                   | 2"-DR-55039-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61              | 54             | 221.3          | 221.3                   | 260                  | 96                          | 140                      | HIDROSTATICA   | 210                      | 8001                    | 2        |
| 2"                                                     | DR     | 55039                                                                                                                             | CB10                       | B                                                                                               | -                           | 2"-DR-55038-CA20-P1     | 2"-DR-55048-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61              | 54             | 221.3          | 91                      | 260                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 2"                                                     | DR     | 55048                                                                                                                             | CB10                       | B                                                                                               | -                           | CABEZAL                 | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61              | 54             | 235            | 91                      | 275                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 0        |
| 2"                                                     | DR     | 55059                                                                                                                             | CB10                       | B                                                                                               | -                           | CABEZAL                 | 2"-HL-54104-CB10-B            | 3285-A100-632-2042-DW-001 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |
| 3/4"                                                   | DR     | 55060                                                                                                                             | CB10                       | B                                                                                               | -                           | 3/4"-HL-55158-CA20-P1   | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61              | 54             | 135            | 125                     | 175                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3/4"                                                   | DR     | 55061                                                                                                                             | CB10                       | B                                                                                               | -                           | 3/4"-HL-55159-CA20-P1   | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61              | 54             | 135            | 125                     | 175                  | 40                          | 70                       | HIDROSTATICA   | 105                      | 8001                    | 2        |
| 3"                                                     | FG     | 01001                                                                                                                             | CA40                       | B                                                                                               | -                           | V-011 (SKID #010)       | TG-511/K-511                  | 3285-A100-632-2042-DW-022 | GAS             | 0.96               | 64             | 105            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 1023                    | 0        |
| 4"                                                     | FG     | 01009                                                                                                                             | CA20                       | B                                                                                               | -                           | V-012                   | Generación Eléctrica          | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 51             | 95             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |

|                                                                                              |        |                                                                                                                                                              |                            |                                                                           |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |        |                 |          |
|----------------------------------------------------------------------------------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|----------------------|----------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|--------|-----------------|----------|
| <div></div> |        | <div><div>Corporación</div><div>La fuerza del Español y del Río</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                | Fecha                    | Realizó                 | Revisó   | Aprobó | Página: 3 de 21 |          |
|                                                                                              |        |                                                                                                                                                              |                            |                                                                           |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          | PP                      | ER       | LR/RG  | Versión         | Revisión |
|                                                                                              |        |                                                                                                                                                              |                            |                                                                           |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          | PP                      | ER       | LR/RG  | 2               | 2        |
|                                                                                              |        |                                                                                                                                                              |                            |                                                                           |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          | PP                      | ER       | LR/RG  |                 |          |
| DOCUMENTO AESA N°                                                                            |        | 3285-A100-632-2045-LL-100                                                                                                                                    |                            |                                                                           |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                | NOTAS                    |                         |          |        |                 |          |
|                                                                                              |        |                                                                                                                                                              |                            | LISTA DE LÍNEAS                                                           |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |        |                 |          |
| Diámetros (in)                                                                               | Fluido | Número de línea                                                                                                                                              | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                | Hasta                | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |        |                 |          |
| 2"                                                                                           | FG     | 01010                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-FG-01208-CA20-B   | PCV-50175            | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 2"                                                                                           | FG     | 01022                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-FG-01208-CA20-B   | PSV-50168            | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 2"                                                                                           | FG     | 01023                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-FG-01208-CA20-B   | PSV-50167            | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 2"                                                                                           | FG     | 01044                                                                                                                                                        | CA20                       | B                                                                         | -                           | 4"-FG-01009-CA20-B   | L-001                | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 51             | 95             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |        |                 |          |
| 4"                                                                                           | FG     | 01068                                                                                                                                                        | CA20                       | B                                                                         | -                           | 4"-FG-01009-CA20-B   | Generación Eléctrica | 3285-A100-632-2042-DW-022 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 1"                                                                                           | FG     | 01207                                                                                                                                                        | CA20                       | B                                                                         | -                           | PCV-50175            | CABEZAL              | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 2"                                                                                           | FG     | 01208                                                                                                                                                        | CA20                       | B                                                                         | -                           | 4"-FG-01009-CA20-B   | H-501                | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 51             | 95             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 1        |        |                 |          |
| 3/4"                                                                                         | FG     | 01216                                                                                                                                                        | CA20                       | B                                                                         | -                           | 1"-FG-01207-CA20-B   | VENTEO ZONA SEGURA   | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 3/4"                                                                                         | FG     | 01217                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-FG-01218-CA20-B   | SV-50182A            | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 2"                                                                                           | FG     | 01218                                                                                                                                                        | CA20                       | B                                                                         | -                           | CABEZAL              | H-501                | 3285-A100-632-2042-DW-026 | GAS             | 0.35               | 51             | 95             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |        |                 |          |
| 3/4"                                                                                         | FG     | 01219                                                                                                                                                        | CA20                       | B                                                                         | -                           | CABEZAL              | H-501                | 3285-A100-632-2042-DW-026 | GAS             | 0.35               | 51             | 95             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 1        |        |                 |          |
| 2"                                                                                           | FL     | 01019                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-HG-01018-CA40-B   | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-022 | GAS             | 0.96               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 6"                                                                                           | FL     | 01020                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-01101            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-022 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 6"                                                                                           | FL     | 01021                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-01102            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-022 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 2"                                                                                           | FL     | 01024                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-50168            | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-026 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 2"                                                                                           | FL     | 01028                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-HG-01027-CA20-B   | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-022 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 4"                                                                                           | FL     | 01029                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-01208            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-022 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 4"                                                                                           | FL     | 01030                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-01207            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-022 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | HIDROSTATICA   | 105                      | 1023 Y 2009             | 0        |        |                 |          |
| 2"                                                                                           | FL     | 01031                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-50167            | 2"-FL-01024-CA20-B   | 3285-A100-632-2042-DW-026 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 8"                                                                                           | FL     | 01103                                                                                                                                                        | CA20                       | B                                                                         | -                           | CABEZAL              | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-021 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 2"                                                                                           | FL     | 01200                                                                                                                                                        | CA20                       | B                                                                         | -                           | 4"-FG-01009-CA20-B   | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-022 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 2"                                                                                           | FL     | 01201                                                                                                                                                        | CA20                       | B                                                                         | -                           | 4"-FG-01009-CA20-B   | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 2"                                                                                           | FL     | 01202                                                                                                                                                        | CA20                       | B                                                                         | -                           | 4"-FG-01009-CA20-B   | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 4"                                                                                           | FL     | 03001                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-03013            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-021 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 4"                                                                                           | FL     | 03009                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-03004            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-021 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 4"                                                                                           | FL     | 03018                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-03024            | 8"-FL-01103-CA20-B   | 3285-A100-632-2042-DW-021 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 8"                                                                                           | FL     | 20033                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-FL-20034-CA20-B   | 12"-FL-51049-CA20-B  | 3285-A100-632-2042-DW-010 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |
| 4"                                                                                           | FL     | 20034                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-HO-20032-CA15H-H2 | 8"-FL-20212-CA20-B   | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 43.44              | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 8"                                                                                           | FL     | 20035                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-52033            | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 43.44              | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 8"                                                                                           | FL     | 20212                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-52034            | COLECTOR DE VENTEOS  | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 43.44              | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 4"                                                                                           | FL     | 50046                                                                                                                                                        | CA20                       | B                                                                         | -                           | PSV-50058            | 20"-FL-01039-CA20-B  | 3285-A100-632-2042-DW-004 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |        |                 |          |
| 2"                                                                                           | FL     | 50048                                                                                                                                                        | CA20                       | B                                                                         | -                           | 2"-HG-50422-CA100-B  | 4"-FL-50055-CA20-B   | 3285-A100-632-2042-DW-005 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |        |                 |          |

|                            |        |                                                                                                 |                            |                                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |          |
|----------------------------|--------|-------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------|-----------------------------|--------------------------|---------------------|---------------------------|-----------------|------------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|----------|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza por el progreso</div></div></div> |                            | PROYECTO:                                               |                             |                          |                     |                           |                 |                        |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 4 de 21         |          |          |
|                            |        |                                                                                                 |                            |                                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          | NOTAS                   | Versión  | Revisión |
|                            |        |                                                                                                 |                            |                                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |          |
|                            |        |                                                                                                 |                            |                                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                       |                            | OBM 3285<br>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                          |                     |                           |                 |                        |                |                |                         |                      | NOTAS                       | Versión                  | Revisión       |                          |                         |          |          |
|                            |        |                                                                                                 |                            |                                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |          |
|                            |        |                                                                                                 |                            |                                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |          |
|                            |        |                                                                                                 |                            | LISTA DE LÍNEAS                                         |                             |                          |                     |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |          |
| Diámetros (in)             | Fluido | Número de línea                                                                                 | Especificación de Material | Tipo de aislamiento                                     | Espesor de aislamiento (in) | Desde                    | Hasta               | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)     | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |          |
| 2"                         | FL     | 50051                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-50050-CA100-B      | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-004 | GAS             | 2.62                   | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 4"                         | FL     | 50052                                                                                           | CA20                       | B                                                       | -                           | PSV-50059                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-004 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 4"                         | FL     | 50055                                                                                           | CA20                       | B                                                       | -                           | PSV-50080                | 4"-FL-50061-CA20-B  | 3285-A100-632-2042-DW-005 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 2"                         | FL     | 50060                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-50057-CA100-B      | 4"-FL-50061-CA20-B  | 3285-A100-632-2042-DW-005 | ELIMINADA       |                        |                |                |                         |                      |                             |                          |                |                          |                         | 0        |          |
| 4"                         | FL     | 50061                                                                                           | CA20                       | B                                                       | -                           | PSV-50077                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-005 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 10"                        | FL     | 50068                                                                                           | CA20                       | B                                                       | -                           | 4"-FL-50073-CA20-B       | 20"-FL-01039-CA20-B | 3285-A100-632-2042-DW-002 | ELIMINADA       |                        |                |                |                         |                      |                             |                          |                |                          |                         | 2        |          |
| 2"                         | FL     | 50072                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-50071-CA100-B      | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-002 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 4"                         | FL     | 50073                                                                                           | CA20                       | B                                                       | -                           | PSV-50007                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-002 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 2"                         | FL     | 50083                                                                                           | CA20                       | B                                                       | -                           | 10"-HG-50032-CA100H-H2   | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-003 | GAS             | Abs= 2.95<br>Reg= 1.48 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 2"                         | FL     | 50084                                                                                           | CA20                       | B                                                       | -                           | 10"-HG-50033-CA100H-H2   | 2"-FL-50083-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | Abs= 2.95<br>Reg= 1.48 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 2"                         | FL     | 50087                                                                                           | CA20                       | B                                                       | -                           | 10"-HG-50034-CA100H-H2   | 2"-FL-50083-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | Abs= 2.95<br>Reg= 1.48 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50092                                                                                           | CA20                       | B                                                       | -                           | PSV-50020                | 6"-FL-50094-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50093                                                                                           | CA20                       | B                                                       | -                           | PSV-50021                | 6"-FL-50094-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50094                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-50090-CA100H-P11/2 | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50098                                                                                           | CA20                       | B                                                       | -                           | PSV-50032                | 6"-FL-50100-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50099                                                                                           | CA20                       | B                                                       | -                           | PSV-50033                | 6"-FL-50100-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50100                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-50095-CA100H-P11/2 | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50101                                                                                           | CA20                       | B                                                       | -                           | PSV-50042                | 6"-FL-50103-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50102                                                                                           | CA20                       | B                                                       | -                           | PSV-50097                | 6"-FL-50103-CA20-B  | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50103                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-50104-CA100H-P11/2 | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-003 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 10"                        | FL     | 50425                                                                                           | CA20                       | B                                                       | -                           | 10"-FL-50464-CA100-B     | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-002 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 8"                         | FL     | 50444                                                                                           | CA20                       | B                                                       | -                           | CABEZAL                  | 20"-FL-01039-CA20-B | 3285-A100-632-2042-DW-003 | ELIMINADA       |                        |                |                |                         |                      |                             |                          |                |                          |                         | B        |          |
| 2"                         | FL     | 50452                                                                                           | CA20                       | B                                                       | -                           | 2"-HO-50455-CA15H-11/2   | 8"-FL-01086-CA20-B  | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 43.44                  | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 3"                         | FL     | 50453                                                                                           | CA20                       | B                                                       | -                           | PSV-54022                | 8"-FL-01086-CA20-B  | 3285-A100-632-2042-DW-014 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 3"                         | FL     | 50454                                                                                           | CA20                       | B                                                       | -                           | PSV-54021                | 8"-FL-01086-CA20-B  | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 43.44                  | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 10"                        | FL     | 50463                                                                                           | CA20                       | B                                                       | -                           | PSV-50230                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-025 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 4"                         | FL     | 50464                                                                                           | CA100                      | B                                                       | -                           | 4"-HG-50067-CA100-B      | 10"-FL-50425-CA20-B | 3285-A100-632-2042-DW-002 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 6"                         | FL     | 50446                                                                                           | CA20                       | B                                                       | -                           | BDV-50211                | 4"-FL-50061-CA20-B  | 3285-A100-632-2042-DW-005 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 12"                        | FL     | 51010                                                                                           | CA20                       | B                                                       | -                           | PSV-51072                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-008 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 12"                        | FL     | 51011                                                                                           | CA20                       | B                                                       | -                           | PSV-51073                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-008 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 14"                        | FL     | 51022                                                                                           | CA20                       | B                                                       | -                           | PSV-51098                | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-019 | GAS             | 0.0883                 | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 2"                         | FL     | 51024                                                                                           | CA20                       | B                                                       | -                           | 2"-HG-51023-CA100-B      | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-019 | GAS             | 3.01                   | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |          |
| 12"                        | FL     | 51049                                                                                           | CA20                       | B                                                       | -                           | CABEZAL                  | COLECTOR DE VENTEOS | 3285-A100-632-2042-DW-010 | ELIMINADA       |                        |                |                |                         |                      |                             |                          |                |                          |                         | 1        |          |

|                            |        |                                                                                              |                            |                                                                           |                             |                                 |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |  |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|---------------------------------|---------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|--|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div></div><div>Corporación</div><div>La fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                                 |                           |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 5 de 21         |          |  |
|                            |        |                                                                                              |                            |                                                                           |                             |                                 |                           |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |  |
|                            |        |                                                                                              |                            |                                                                           |                             |                                 |                           |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |  |
|                            |        |                                                                                              |                            |                                                                           |                             |                                 |                           |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |  |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                    |                            |                                                                           |                             |                                 |                           |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |  |
|                            |        |                                                                                              |                            | LISTA DE LÍNEAS                                                           |                             |                                 |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |  |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                           | Hasta                     | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |  |
| 2"                         | FL     | 51051                                                                                        | SC16C                      | B                                                                         | -                           | 2"-HG-51048-SC80C-C3            | 2"-FL-51119-SC16C-B       | 3285-A100-632-2042-DW-008 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 51087                                                                                        | SC16C                      | B                                                                         | -                           | 2"-HG-51095-SC80C-C3            | 4"-FL-51089-SC16C-B       | 3285-A100-632-2042-DW-007 | GAS             | 4.92               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 4"                         | FL     | 51088                                                                                        | SC16C                      | B                                                                         | -                           | PSV-51036                       | COLECTOR DE VENTEOS FRIOS | 3285-A100-632-2042-DW-007 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 4"                         | FL     | 51089                                                                                        | SC16C                      | B                                                                         | -                           | PSV-51037                       | 4"-FL-51088-SC16C-B       | 3285-A100-632-2042-DW-007 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 8"                         | FL     | 51091                                                                                        | SC16C                      | B                                                                         | -                           | 4"-FL-51088-SC16C-B             | 12"-FL-01085-SC16C-B      | 3285-A100-632-2042-DW-007 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |  |
| 4"                         | FL     | 51093                                                                                        | CA20                       | B                                                                         | -                           | 2"-HG-51092-CA100-B             | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-019 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 14"                        | FL     | 51094                                                                                        | CA20                       | B                                                                         | -                           | PSV-51099                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-019 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 51098                                                                                        | CA20                       | B                                                                         | -                           | TG-511/K-511                    | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-019 | GAS             | 0.091              | 54             | 117            | 91                      | 147                  | 70                          | 150                      | HIDROSTATICA   | 225                      | 1023 Y 2009             | 0        |  |
| 12"                        | FL     | 51101                                                                                        | CA20                       | B                                                                         | -                           | PSV-51132                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-008 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 51103                                                                                        | CA20                       | B                                                                         | -                           | 2"-HG-51102-CA40-B              | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-008 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 14"                        | FL     | 51105                                                                                        | CA20                       | B                                                                         | -                           | PSV-51133                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-019 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 20"                        | FL     | 51106                                                                                        | CA20                       | B                                                                         | -                           | 12"-FL-51094-CA20-B             | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-019 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |  |
| 2"                         | FL     | 51119                                                                                        | SC16C                      | B                                                                         | -                           | TSV-51059                       | 12"-FL-01085-SC16C-B      | 3285-A100-632-2042-DW-008 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 51123                                                                                        | CA20                       | B                                                                         | -                           | X-510/K510                      | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-009 | GAS             | 0.0883             | 54             | 117            | 91                      | 147                  | 70                          | 150                      | HIDROSTATICA   | 225                      | 1023 Y 2009             | 0        |  |
| 14"                        | FL     | 51126                                                                                        | CA20                       | B                                                                         | -                           | 12"-HG-51125-CA40-B             | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-008 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 8"                         | FL     | 51143                                                                                        | SC16C                      | B                                                                         | -                           | 3"-HG-51090-SC80C-C3            | COLECTOR DE VENTEOS FRIOS | 3285-A100-632-2042-DW-007 | GAS             | 0.0883             | -55            | -43.4          | -43.4                   | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 8"                         | FL     | 51158                                                                                        | SC80C                      | C                                                                         | 3                           | 3"-HG-51090-SC80C-C3            | 8"-FL-51143-SC16C-B       | 3285-A100-632-2042-DW-007 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          |                         | 0        |  |
| 12"                        | FL     | 51161                                                                                        | CA20                       | B                                                                         | -                           | PV-51160 A                      | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-019 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 3/4"                       | FL     | 51188                                                                                        | CA20                       | B                                                                         | -                           | PLAN DE SELLOS SKID #522 P-510A | 2"-FL-51190-CA20-B        | 3285-G100-632-2042-DW-004 | GAS             | 0.96               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 3/4"                       | FL     | 51189                                                                                        | CA20                       | B                                                                         | -                           | PLAN DE SELLOS SKID #522 P-510B | 2"-FL-51190-CA20-B        | 3285-G100-632-2042-DW-004 | GAS             | 0.96               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 10"                        | FL     | 52033                                                                                        | SC16C                      | B                                                                         | -                           | PSV-52051                       | 12"-FL-01085-SC16C-B      | 3285-A100-632-2042-DW-010 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 10"                        | FL     | 52075                                                                                        | SC16C                      | B                                                                         | -                           | PSV-52052                       | COLECTOR DE VENTEOS FRIOS | 3285-A100-632-2042-DW-010 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 52076                                                                                        | SC16C                      | B                                                                         | -                           | 2"-HG-52036-SC40-C3             | 10"-FL-52075-SC16C-B      | 3285-A100-632-2042-DW-010 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 3/4"                       | FL     | 52100                                                                                        | CA20                       | B                                                                         | -                           | PLAN DE SELLOS SKID #522 P-520A | 2"-FL-51190-CA20-B        | 3285-G100-632-2042-DW-004 | GAS             | 0.96               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 3/4"                       | FL     | 52101                                                                                        | CA20                       | B                                                                         | -                           | PLAN DE SELLOS SKID #522 P-520B | 2"-FL-51190-CA20-B        | 3285-G100-632-2042-DW-004 | GAS             | 0.96               | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 54011                                                                                        | CA40                       | B                                                                         | -                           | V-540                           | PV-54050                  | 3285-A100-632-2042-DW-015 | GAS             | 0.0883             | 54             | 175            | 91                      | 205                  | 195                         | 235                      | HIDROSTATICA   | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 54012                                                                                        | CA20                       | B                                                                         | -                           | PV-54050                        | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-015 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 8"                         | FL     | 54021                                                                                        | CA20                       | B                                                                         | -                           | PSV-54014                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-014 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 8"                         | FL     | 54022                                                                                        | CA20                       | B                                                                         | -                           | PSV-54015                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-014 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 6"                         | FL     | 54035                                                                                        | CA20                       | B                                                                         | -                           | PSV-54011                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-001 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 6"                         | FL     | 54036                                                                                        | CA20                       | B                                                                         | -                           | PSV-54007                       | 6"-FL-54035-CA20-B        | 3285-A100-632-2042-DW-001 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 54065                                                                                        | CA20                       | B                                                                         | -                           | TSV-54078                       | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-015 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |
| 2"                         | FL     | 54067                                                                                        | CA20                       | B                                                                         | -                           | TSV-54076                       | 2"-FL-54065-CA20-B        | 3285-A100-632-2042-DW-015 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |  |

|                            |        |                                                                                                |                            |                     |                             |                      |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
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| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>La fuerza del petróleo en el futuro</div></div> |                            | PROYECTO:           |                             |                      |                           |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 6 de 21         |          |
|                            |        |                                                                                                |                            |                     |                             |                      |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|                            |        |                                                                                                |                            |                     |                             |                      |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          | 2                       | 2        |
|                            |        |                                                                                                |                            |                     |                             |                      |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| LISTA DE LÍNEAS            |        |                                                                                                |                            |                     |                             |                      |                           |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                                | Especificación de Material | Tipo de aislamiento | Espesor de aislamiento (in) | Desde                | Hasta                     | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | FL     | 54119                                                                                          | CA20                       | B                   | -                           | 2"-HG-54018-CA40-P1  | COLECTOR DE VENTEOS FRIOS | 3285-A100-632-2042-DW-014 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |
| 4"                         | FL     | 55004                                                                                          | CA20                       | B                   | -                           | PSV-55001            | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-016 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |
| 4"                         | FL     | 55005                                                                                          | CA20                       | B                   | -                           | PSV-55002            | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-016 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |
| 2"                         | FL     | 55015                                                                                          | CA20                       | B                   | -                           | PV-55033             | 8"-FL-01086-CA20-B        | 3285-A100-632-2042-DW-017 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |
| 2"                         | FL     | 55021                                                                                          | CA20                       | B                   | -                           | 2"-HG-55149-CA20-P1  | COLECTOR DE VENTEOS       | 3285-A100-632-2042-DW-016 | GAS             | 0.0883             | -20            | 245            | 91                      | 275                  | 15                          | 70                       | NEUMÁTICA      | 77                       | 1023 Y 2009             | 2        |
| 2"                         | GS     | 03038                                                                                          | CA100                      | H                   | 1                           | 3"-HG-03012-CA100-H1 | TG-511 A/K-511 A          | 3285-A100-632-2042-DW-021 | GAS             | 3.06               | 54             | 120            | 120                     | 150                  | 950                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | GS     | 21031                                                                                          | CA20                       | B                   | -                           | 4"-FG-01009-CA20-B   | 2"-GS-21041-CA15H-B       | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 51             | 95             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 1        |
| 2"                         | GS     | 51135                                                                                          | CA100                      | H                   | 1                           | 2"-GS-03038-CA100-H1 | SELLO X-510/K-510         | 3285-A100-632-2042-DW-019 | GAS             | 3.06               | 54             | 120            | 120                     | 150                  | 950                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | GS     | 81009                                                                                          | CA20                       | B                   | -                           | 4"-FG-01009-CA20-B   | TK-810                    | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 54             | 135            | 104                     | 140                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 2"                         | GS     | 82004                                                                                          | CA20                       | B                   | -                           | 4"-FG-01009-CA20-B   | TK-820                    | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 54             | 135            | 104                     | 140                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 2"                         | GS     | 82006                                                                                          | CA20                       | B                   | -                           | 4"-FG-01009-CA20-B   | TK-821                    | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 54             | 135            | 104                     | 140                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 2"                         | GS     | 89010                                                                                          | CA20                       | B                   | -                           | 4"-FG-01009-CA20-B   | PCV-90002                 | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 54             | 135            | 104                     | 140                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 3"                         | HG     | 01016                                                                                          | CA40                       | B                   | -                           | 3"-HG-01017-CA40-B   | PSV-01101                 | 3285-A100-632-2042-DW-022 | GAS             | 0.96               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 1023                    | 0        |
| 3"                         | HG     | 01017                                                                                          | CA40                       | B                   | -                           | V-011 (SKID #010)    | PSV-01102                 | 3285-A100-632-2042-DW-022 | GAS             | 0.96               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 1023                    | 0        |
| 2"                         | HG     | 01018                                                                                          | CA40                       | B                   | -                           | 3"-HG-01017-CA40-B   | 2"-FL-01019-CA20-B        | 3285-A100-632-2042-DW-022 | GAS             | 0.96               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 1023                    | 0        |
| 3"                         | HG     | 01025                                                                                          | CA20                       | B                   | -                           | 3"-HG-01026-CA20-B   | PSV-01207                 | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 41             | 92             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 3"                         | HG     | 01026                                                                                          | CA20                       | B                   | -                           | V-012 (SKID #010)    | PSV-01208                 | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 41             | 92             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 1        |
| 2"                         | HG     | 01027                                                                                          | CA20                       | B                   | -                           | 3"-HG-01026-CA20-B   | 2"-FL-01028-CA20-B        | 3285-A100-632-2042-DW-022 | GAS             | 0.35               | 41             | 92             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 2"                         | HG     | 03004                                                                                          | CA100                      | H                   | 1                           | 3"-HG-03012-CA100-H1 | PSV-03013                 | 3285-A100-632-2042-DW-021 | GAS             | 3.06               | 54             | 120            | 120                     | 150                  | 950                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 03007                                                                                          | CA100                      | B                   | -                           | 3"-HG-03011-CA100-B  | PSV-03004                 | 3285-A100-632-2042-DW-021 | GAS             | 3.58               | 54             | 65-120         | 65-120                  | 150                  | 820-950                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 3"                         | HG     | 03011                                                                                          | CA100                      | B                   | -                           | F-030 A              | HE-030 (SKID #010)        | 3285-A100-632-2042-DW-021 | GAS             | 3.58               | 54             | 65-120         | 65-120                  | 150                  | 820-950                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 3"                         | HG     | 03012                                                                                          | CA100                      | H                   | 1 1/2                       | HE-030 (SKID #010)   | 4"-HG-03026-CA40-B        | 3285-A100-632-2042-DW-021 | GAS             | 3.06               | 54             | 120            | 120                     | 150                  | 950                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 3"                         | HG     | 03013                                                                                          | CA40                       | B                   | -                           | 4"-HG-03026-CA40-B   | V-011 (SKID #010)         | 3285-A100-632-2042-DW-022 | GAS             | 3.06               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 1023                    | 0        |
| 3"                         | HG     | 03014                                                                                          | CA100                      | B                   | -                           | 3"-HG-50125-CA100-B  | F-030 B                   | 3285-A100-632-2042-DW-021 | GAS             | 3.94               | 54             | 65 -120        | 65 -120                 | 150                  | 820-950                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 3"                         | HG     | 03015                                                                                          | CA100                      | B                   | -                           | F-030 B              | 3"-HG-03011-CA100-B       | 3285-A100-632-2042-DW-021 | GAS             | 3.58               | 54             | 65 -120        | 65 -120                 | 150                  | 820-950                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 03017                                                                                          | CA100                      | B                   | -                           | 3"-HG-03015-CA100-B  | PSV-03024                 | 3285-A100-632-2042-DW-021 | GAS             | 3.58               | 54             | 65 -120        | 65 -120                 | 150                  | 820-950                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 4"                         | HG     | 03025                                                                                          | CA20                       | B                   | -                           | PV-01203             | V-012 (SKID #010)         | 3285-A100-632-2042-DW-022 | GAS             | 3.06               | 41             | 92             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 1023                    | 0        |
| 4"                         | HG     | 03026                                                                                          | CA40                       | B                   | -                           | 3"-HG-03012-CA100-H1 | PV-01203                  | 3285-A100-632-2042-DW-021 | GAS             | 3.06               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 1023                    | 1        |
| 2"                         | HG     | 03039                                                                                          | CA100                      | B                   | -                           | 3"-HG-03011-CA100-B  | Z-001                     | 3285-A100-632-2042-DW-021 | GAS             | 3.58               | 54             | 65-120         | 65-120                  | 150                  | 820-950                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 14"                        | HG     | 50002                                                                                          | CA100                      | B                   | -                           | PV-50003A            | F-501 (SKID #504)         | 3285-A100-632-2042-DW-001 | GAS             | 3.03               | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 4"                         | HG     | 50004                                                                                          | CA100                      | B                   | -                           | 14-HG-50418-CA100-B  | E-541 (SKID #542)         | 3285-A100-632-2042-DW-001 | GAS             | 3.1                | 54             | 84.8           | 84.8                    | 120                  | 816.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 4"                         | HG     | 50005                                                                                          | CA100                      | B                   | -                           | E-541 (SKID #542)    | 14"-HG-50002-CA100-B      | 3285-A100-632-2042-DW-001 | GAS             | 2.91               | 54             | 105.9          | 105.9                   | 140                  | 816.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 14"                        | HG     | 50006                                                                                          | CA100                      | B                   | -                           | F-501 (SKID #504)    | V-501 A/B/C (SKID #501)   | 3285-A100-632-2042-DW-002 | GAS             | 3                  | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |

| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div></div> |                            | PROYECTO:<br><br><div>OBM 3285</div> <div>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE</div> |                             |                          |                           |                           |                 |                        |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 7 de 21         |          |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|-----------------------------|--------------------------|---------------------------|---------------------------|-----------------|------------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
|                            |        |                                                                                              |                            |                                                                                             |                             |                          |                           |                           |                 |                        |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                              |                            |                                                                                             |                             |                          |                           |                           |                 |                        |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                              |                            |                                                                                             |                             |                          |                           |                           |                 |                        |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                    |                            |                                                                                             |                             |                          |                           |                           |                 |                        |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                              |                            | LISTA DE LÍNEAS                                                                             |                             |                          |                           |                           |                 |                        |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento                                                                         | Espesor de aislamiento (in) | Desde                    | Hasta                     | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)     | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 6"                         | HG     | 50010                                                                                        | SC80                       | H                                                                                           | 1 1/2                       | CABEZAL                  | V-502                     | 3285-A100-632-2042-DW-004 | Liq /Vap        | L= 61.86<br>V= 2.78    | 54             | 120            | 120                     | 150                  | 775.32                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50011                                                                                        | CA100                      | B                                                                                           | -                           | 6"-HG-50013-CA100-B      | K-501 B                   | 3285-A100-632-2042-DW-005 | GAS             | 2.62                   | 54             | 120            | 120                     | 150                  | 757.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 50012                                                                                        | CA100                      | B                                                                                           | -                           | K-501 A                  | CABEZAL H-501             | 3285-A100-632-2042-DW-005 | GAS             | 2.69                   | 54             | 136.9          | 136.9                   | 150                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 6"                         | HG     | 50013                                                                                        | CA100                      | B                                                                                           | -                           | 14"-HG-50035-CA100-B     | K-501 A                   | 3285-A100-632-2042-DW-005 | GAS             | 2.62                   | 54             | 120            | 120                     | 150                  | 757.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 50014                                                                                        | CA100                      | B                                                                                           | -                           | K-501 B                  | 6"-HG-50012-CA100-B       | 3285-A100-632-2042-DW-005 | GAS             | 2.69                   | 54             | 136.9          | 136.9                   | 150                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50015                                                                                        | CA100                      | B                                                                                           | -                           | 14"-HG-50006-CA100-B     | KV-50018                  | 3285-A100-632-2042-DW-003 | GAS             | 3                      | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50016                                                                                        | CA100                      | B                                                                                           | -                           | 14"-HG-50006-CA100-B     | KV-50030                  | 3285-A100-632-2042-DW-003 | GAS             | 3                      | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50017                                                                                        | CA100                      | B                                                                                           | -                           | 14"-HG-50006-CA100-B     | KV-50040                  | 3285-A100-632-2042-DW-003 | GAS             | 3                      | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50018                                                                                        | CA100                      | B                                                                                           | -                           | KV-50028                 | 14"-HG-50028-CA100-B      | 3285-A100-632-2042-DW-003 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 802.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50019                                                                                        | CA100                      | B                                                                                           | -                           | KV-50038                 | 14"-HG-50028-CA100-B      | 3285-A100-632-2042-DW-003 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 802.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50020                                                                                        | CA100                      | B                                                                                           | -                           | KV-50048                 | 14"-HG-50028-CA100-B      | 3285-A100-632-2042-DW-003 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 802.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 50021                                                                                        | CA100H                     | H                                                                                           | 2                           | 6"-HG-50107-CA100H-H11/2 | 10"-HG-50034-CA100H-H2    | 3285-A100-632-2042-DW-003 | GAS             | 1.48                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50022                                                                                        | CA100H                     | H                                                                                           | 2                           | 6"-HG-50107-CA100H-H11/2 | 10"-HG-50033-CA100H-H2    | 3285-A100-632-2042-DW-003 | GAS             | 1.48                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50023                                                                                        | CA100H                     | H                                                                                           | 2                           | 6"-HG-50107-CA100H-H11/2 | 10"-HG-50032-CA100H-H2    | 3285-A100-632-2042-DW-003 | GAS             | 1.48                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50024                                                                                        | CA100H                     | H                                                                                           | 2                           | 10"-HG-50029-CA100H-P2   | 6"-HG-50027-CA100H-H1 1/2 | 3285-A100-632-2042-DW-003 | GAS             | 1.96                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50025                                                                                        | CA100H                     | H                                                                                           | 2                           | 10"-HG-50030-CA100H-P2   | 6"-HG-50027-CA100H-H1 1/2 | 3285-A100-632-2042-DW-003 | GAS             | 1.96                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50026                                                                                        | CA100H                     | H                                                                                           | 2                           | 10"-HG-50031-CA100H-P2   | 6"-HG-50027-CA100H-H1 1/2 | 3285-A100-632-2042-DW-003 | GAS             | 1.96                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50027                                                                                        | CA100H                     | H                                                                                           | 2                           | CABEZAL                  | 6"-HG-50465-CA100H-P1 1/2 | 3285-A100-632-2042-DW-003 | GAS             | 1.96                   | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 14"                        | HG     | 50028                                                                                        | CA100                      | B                                                                                           | -                           | CABEZAL                  | F-502 A                   | 3285-A100-632-2042-DW-005 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 802.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 10"                        | HG     | 50029                                                                                        | CA100H                     | P                                                                                           | 2                           | KV-50018                 | V-501 A                   | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96    | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50030                                                                                        | CA100H                     | P                                                                                           | 2                           | KV-50030                 | V-501 B                   | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96    | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50031                                                                                        | CA100H                     | P                                                                                           | 2                           | KV-50040                 | V-501 C                   | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96    | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 50032                                                                                        | CA100H                     | H                                                                                           | 2 1/2                       | V-501 A                  | KV-50028                  | 3285-A100-632-2042-DW-003 | GAS             | Abs= 2.95<br>Reg= 1.48 | 54             | 90 / 480       | 90 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 10"                        | HG     | 50033                                                                                        | CA100H                     | H                                                                                           | 2 1/2                       | V-501 B                  | KV-50038                  | 3285-A100-632-2042-DW-003 | GAS             | Abs= 2.95<br>Reg= 1.48 | 54             | 90 / 480       | 90 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 10"                        | HG     | 50034                                                                                        | CA100H                     | H                                                                                           | 2 1/2                       | V-501 C                  | KV-50048                  | 3285-A100-632-2042-DW-003 | GAS             | Abs= 2.95<br>Reg= 1.48 | 54             | 90 / 480       | 90 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 14"                        | HG     | 50035                                                                                        | CA100                      | B                                                                                           | -                           | 14"-HG-50036 -CA100-B    | E-511                     | 3285-A100-632-2042-DW-005 | GAS             | 2.62                   | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 14"                        | HG     | 50036                                                                                        | CA100                      | B                                                                                           | -                           | F-502 A                  | 14"-HG-50035-CA100-B      | 3285-A100-632-2042-DW-005 | GAS             | 2.62                   | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 14"                        | HG     | 50037                                                                                        | CA100                      | B                                                                                           | -                           | F-502 B                  | 14"-HG-50035-CA100-B      | 3285-A100-632-2042-DW-005 | GAS             | 2.62                   | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 14"                        | HG     | 50042                                                                                        | CA100                      | B                                                                                           | -                           | 14"-HG-50028-CA100-B     | F-502 B                   | 3285-A100-632-2042-DW-005 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 802.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50049                                                                                        | CA100                      | B                                                                                           | -                           | F-502 B                  | PSV-50080                 | 3285-A100-632-2042-DW-005 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50050                                                                                        | CA100                      | B                                                                                           | -                           | 2"-HG-50421-CA100-B      | 2"-FL-50051-CA20-B        | 3285-A100-632-2042-DW-004 | GAS             | 2.62                   | 54             | 120            | 120                     | 150                  | 765                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 2"                         | HG     | 50056                                                                                        | CA100                      | B                                                                                           | -                           | F-502 A                  | PSV-50077                 | 3285-A100-632-2042-DW-005 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50057                                                                                        | CA100                      | B                                                                                           | -                           | 2"-HG-50056-CA100-B      | 4"-FL-50061-CA20-B        | 3285-A100-632-2042-DW-005 | GAS             | 2.95                   | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |

|                            |        |                                                                                   |                            |                                                                           |                             |                           |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|---------------------------|--------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                           |                          |                           |                 |                     |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 8 de 21         |          |
|                            |        |                                                                                   |                            |                                                                           |                             |                           |                          |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                   |                            |                                                                           |                             |                           |                          |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                   |                            |                                                                           |                             |                           |                          |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                           |                             |                           |                          |                           |                 |                     |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                           |                             |                           |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                     | Hasta                    | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 4"                         | HG     | 50067                                                                             | CA100                      | B                                                                         | -                           | 14"-HG-50006-CA100-B      | 10"-FL-50464-CA100-B     | 3285-A100-632-2042-DW-002 | GAS             | 3                   | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50070                                                                             | CA100                      | B                                                                         | -                           | F-501                     | PSV-50007                | 3285-A100-632-2042-DW-002 | GAS             | 3.03                | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 2"                         | HG     | 50071                                                                             | CA100                      | B                                                                         | -                           | 2"-HG-50070-CA100-B       | 2"-FL-50072-CA20-B       | 3285-A100-632-2042-DW-002 | GAS             | 3.03                | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 2"                         | HG     | 50089                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 2"-HG-50090-CA100H-P11/2  | PSV-50020                | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 2"                         | HG     | 50090                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 10"-HG-50029-CA100H-P11/2 | 6"-FL-50094-CA20-B       | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50091                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 2"-HG-50090-CA100H-P11/2  | PSV-50021                | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50095                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 10"-HG-50030-CA100H-P2    | 6"-FL-50100-CA20-B       | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50096                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 2"-HG-50095-CA100H-P11/2  | PSV-50033                | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50097                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 2"-HG-50095-CA100H-P11/2  | PSV-50032                | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50104                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 10"-HG-50031-CA100H-P2    | 6"-FL-50103-CA20-B       | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50105                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 2"-HG-50104-CA100H-P11/2  | PSV-50097                | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50106                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 2"-HG-50104-CA100H-P11/2  | PSV-50042                | 3285-A100-632-2042-DW-003 | GAS             | Abs= 3<br>Reg= 1.96 | 54             | 88 / 480       | 88 / 480                | 510                  | 802.4 / 779.4               | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 50107                                                                             | CA100H                     | H                                                                         | 2                           | CABEZAL                   | V-501 A/B/C (SKID #501)  | 3285-A100-632-2042-DW-025 | GAS             | 1.48                | 54             | 480.1          | 480.1                   | 510                  | 786.63                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50108                                                                             | CA100H                     | P                                                                         | 2                           | 6"-HG-50107-CA100H-H11/2  | 6"-HG-50465-CA100H-P11/2 | 3285-A100-632-2042-DW-003 | GAS             | 1.48                | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 3"                         | HG     | 50119                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 6"-HG-50465-CA100H-P11/2  | A-502 (BOQUILLA A2)      | 3285-A100-632-2042-DW-004 | GAS             | 1.96                | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 2"                         | HG     | 50120                                                                             | CA100                      | B                                                                         | -                           | 2"-HG-50421-CA100-B       | PSV-50059                | 3285-A100-632-2042-DW-004 | GAS             | 2.62                | 54             | 120            | 120                     | 150                  | 765                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 3"                         | HG     | 50124                                                                             | SC80                       | H                                                                         | 1 1/2                       | A-502 (BOQUILLA B2)       | 6"-HG-50010-SC80-H1      | 3285-A100-632-2042-DW-004 | Liq /Vap        | L= 61.86<br>V= 2.78 | 54             | 120            | 120                     | 150                  | 775.32                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 2"                         | HG     | 50127                                                                             | CA100                      | B                                                                         | -                           | 2"-HG-50070-CA100-B       | PSV-50007                | 3285-A100-632-2042-DW-002 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | 0        |
| 2"                         | HG     | 50129                                                                             | CA100                      | B                                                                         | -                           | F-501                     | Standpipe del LG-50010   | 3285-A100-632-2042-DW-002 | GAS             | 44                  | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50131                                                                             | CA100                      | B                                                                         | -                           | F-501 (SKID #504)         | Standpipe del LG-50012   | 3285-A100-632-2042-DW-002 | GAS             | 44                  | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 3/4"                       | HG     | 50135                                                                             | SC80C                      | C                                                                         | 4                           | 14"-HG-50035-SC80C-C4     | 3/4"-DR-51182-CB10-B     | 3285-A100-632-2042-DW-006 | GAS             | 2.62                | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 14"                        | HG     | 50141                                                                             | CA100                      | B                                                                         | -                           | 14"-HG-50002-CA100-B      | 14"-HG-50006-CA100-B     | 3285-A100-632-2042-DW-002 | GAS             | 3.03                | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 3"                         | HG     | 50150                                                                             | CA100H                     | P                                                                         | 1 1/2                       | 6"-HG-50465-CA100H-P11/2  | A-502 (BOQUILLA A1)      | 3285-A100-632-2042-DW-004 | GAS             | 1.96                | 54             | 480            | 480                     | 510                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 3"                         | HG     | 50151                                                                             | SC80                       | H                                                                         | 1 1/2                       | A-502 (BOQUILLA B1)       | 6"-HG-50010-SC80-H1      | 3285-A100-632-2042-DW-004 | Liq /Vap        | L= 61.86<br>V= 2.78 | 54             | 120            | 120                     | 150                  | 775.32                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 14"                        | HG     | 50418                                                                             | CA100                      | B                                                                         | -                           | 20"-HG-50003-CA100-B      | 4"-HG-50004-CA100-B      | 3285-A100-632-2042-DW-001 | GAS             | 3.1                 | 54             | 84.8           | 84.8                    | 120                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50421                                                                             | CA100                      | B                                                                         | -                           | V-502                     | PSV-50058                | 3285-A100-632-2042-DW-004 | GAS             | 2.62                | 54             | 120            | 120                     | 150                  | 765                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 50422                                                                             | CA100                      | B                                                                         | -                           | 2"-HG-50049-CA100-B       | 4"-FL-50055-CA20-B       | 3285-A100-632-2042-DW-005 | GAS             | 2.95                | 54             | 90             | 90                      | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 6"                         | HG     | 50426                                                                             | CA100                      | B                                                                         | -                           | CABEZAL                   | H-501                    | 3285-A100-632-2042-DW-025 | GAS             | 2.69                | 54             | 136.9          | 136.9                   | 150                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 50427                                                                             | CA100                      | B                                                                         | -                           | CABEZAL                   | H-501                    | 3285-A100-632-2042-DW-025 | GAS             | 2.69                | 54             | 136.9          | 136.9                   | 150                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 50428                                                                             | CA100H                     | H                                                                         | 2                           | H-501                     | CABEZAL                  | 3285-A100-632-2042-DW-025 | GAS             | 1.48                | 54             | 480.1          | 480.1                   | 510                  | 786.63                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50429                                                                             | CA100H                     | H                                                                         | 2                           | H-501                     | CABEZAL                  | 3285-A100-632-2042-DW-025 | GAS             | 1.48                | 54             | 480.1          | 480.1                   | 510                  | 786.63                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50443                                                                             | CA100                      | H                                                                         | 1 1/2                       | V-502                     | 14-HG-50002-CA100-B      | 3285-A100-632-2042-DW-004 | GAS             | 2.62                | 54             | 120            | 120                     | 150                  | 757.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50445                                                                             | CA100                      | B                                                                         | -                           | 6"-HG-50012-CA100-B       | BDV-50211                | 3285-A100-632-2042-DW-005 | GAS             | 2.69                | 54             | 136.9          | 136.9                   | 150                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |

|                            |        |                                                                                              |                            |                     |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------|-----------------------------|--------------------------|--------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div></div> |                            | PROYECTO:           |                             |                          |                          |                           |                 |                     |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 9 de 21         |          |
|                            |        |                                                                                              |                            |                     |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
|                            |        |                                                                                              |                            |                     |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          | 2                       | 2        |
|                            |        |                                                                                              |                            |                     |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| LISTA DE LÍNEAS            |        |                                                                                              |                            |                     |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento | Espesor de aislamiento (in) | Desde                    | Hasta                    | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
|                            |        |                                                                                              |                            |                     |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| 6"                         | HG     | 50448                                                                                        | CA100                      | B                   | -                           | 6"-HG-50012-CA100-B      | KV-50135                 | 3285-A100-632-2042-DW-025 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | B        |
| 6"                         | HG     | 50449                                                                                        | CA100H                     | H                   | 1 1/2                       | KV-50135                 | 6"-HG-50107-CA100H-H11/2 | 3285-A100-632-2042-DW-025 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | B        |
| 10"                        | HG     | 50460                                                                                        | CA100                      | B                   | -                           | 14"-HG-50035-CA100-B     | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-005 | GAS             | 2.62                | 54             | 136.9          | 136.9                   | 150                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| X"                         | HG     | 50461                                                                                        | CA100                      | B                   | -                           | 6"-HG-50013-CA100-B      | 6"-HG-50011-CA100-B      | 3285-A100-632-2042-DW-005 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | 0        |
| 6"                         | HG     | 50462                                                                                        | CA100H                     | H                   | 2                           | 6"-HG-50107-CA100H-H11/2 | PSV-50230                | 3285-A100-632-2042-DW-025 | GAS             | 1.48                | 54             | 480.1          | 480.1                   | 510                  | 786.63                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 6"                         | HG     | 50465                                                                                        | CA100                      | P                   | 2                           | 6"-HG-50027-CA100H-H11/2 | A-502                    | 3285-A100-632-2042-DW-003 | GAS             | 1.48                | 54             | 480.1          | 480.1                   | 510                  | 786.63                      | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 18"                        | HG     | 51005                                                                                        | SC40C                      | C                   | 4 1/2                       | T-510                    | E-521 (SKID #522)        | 3285-A100-632-2042-DW-013 | GAS             | 2.67                | -115           | -102           | -102                    | 104                  | 405                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 0        |
| 10"                        | HG     | 51007                                                                                        | CA40                       | B                   | -                           | 18"-HG-51028-CA40-B      | PSV-51072                | 3285-A100-632-2042-DW-008 | GAS             | 1.31                | -20            | 82.5           | 82.5                    | 115                  | 405.2                       | 440                      | HIDROSTATICA   | 660                      | 1023                    | 2        |
| 10"                        | HG     | 51008                                                                                        | CA40                       | B                   | -                           | 18"-HG-51028-CA40-B      | PSV-51073                | 3285-A100-632-2042-DW-008 | GAS             | 1.31                | -20            | 82.5           | 82.5                    | 115                  | 405.2                       | 440                      | HIDROSTATICA   | 660                      | 1023                    | 2        |
| 6"                         | HG     | 51020                                                                                        | CA100                      | B                   | -                           | 14"-HG-51026-CA100-B     | PSV-51098                | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 6"                         | HG     | 51021                                                                                        | CA100                      | B                   | -                           | 14"-HG-51026-CA100-B     | PSV-51099                | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 51023                                                                                        | CA100                      | B                   | -                           | 14"-HG-51026-CA100-B     | 2"-FL-51024-CA20-B       | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 16"                        | HG     | 51025                                                                                        | CA100                      | P                   | 2                           | K-511 / TG-511           | CABEZAL A-511            | 3285-A100-632-2042-DW-018 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 14"                        | HG     | 51026                                                                                        | CA100                      | B                   | -                           | CABEZAL                  | 14"-HG-51136-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 18"                        | HG     | 51028                                                                                        | CA40                       | B                   | -                           | 18"-HG-52814-SC40C-C4    | K-510                    | 3285-A100-632-2042-DW-006 | GAS             | 1.31                | -20            | 82.5           | 82.5                    | 115                  | 391                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 12"                        | HG     | 51030                                                                                        | CA40                       | B                   | -                           | 18"-HG-51040-CA40-B      | 18"-HG-51028-CA40-B      | 3285-A100-632-2042-DW-008 | GAS             | 1.49                | 54             | 113.9          | 113.9                   | 144                  | 475                         | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 0        |
| 18"                        | HG     | 51031                                                                                        | CA40                       | B                   | -                           | 18"-HG-51028-CA40-B      | 18"-HG-51040-CA40-B      | 3285-A100-632-2042-DW-008 | GAS             | 1.31                | 54             | SIN FLUJO      | SIN FLUJO               | 144                  | SIN FLUJO                   | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 0        |
| 18"                        | HG     | 51032                                                                                        | CA40                       | B                   | -                           | 18"-HG-51040-CA40-B      | K-511                    | 3285-A100-632-2042-DW-009 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | 0        |
| 4"                         | HG     | 51033                                                                                        | CA40                       | B                   | -                           | 18"-HG-51040-CA40-B      | 4"-HG-03026-CA40-B       | 3285-A100-632-2042-DW-009 | GAS             | 1.49                | 54             | 113.9          | 113.9                   | 144                  | 489.3                       | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 0        |
| 18"                        | HG     | 51040                                                                                        | CA40                       | B                   | -                           | K-510 (SKID #510)        | SDV-51139                | 3285-A100-632-2042-DW-008 | GAS             | 1.49                | 54             | 113.9          | 113.9                   | 144                  | 489.3                       | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 1        |
| 14"                        | HG     | 51041                                                                                        | SC80C                      | C                   | 4                           | V-510                    | X-510                    | 3285-A100-632-2042-DW-007 | GAS             | 4.92                | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 12"                        | HG     | 51043                                                                                        | SC80C                      | C                   | 3                           | 14"-HG-51041-SC80C-C4    | 14"-HG-51044-SC40C-C3    | 3285-A100-632-2042-DW-008 | GAS             | 4.92                | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 14"                        | HG     | 51044                                                                                        | SC40C                      | C                   | 3                           | 12"-HG-51043-SC80C-C3    | 14"-HL-51045-SC80C-C4    | 3285-A100-632-2042-DW-008 | Liq /Vap        | L= 30.48<br>V= 2.50 | -103           | -92.3          | -92.3                   | 104                  | 410                         | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 51046                                                                                        | SC80C                      | C                   | 3                           | 14"-HL-51045-SC80C-C4    | TSV-51059                | 3285-A100-632-2042-DW-008 | Liq /Vap        | L= 30.48<br>V= 2.50 | -103           | -92.3          | -92.3                   | 104                  | 410                         | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 0        |
| 2"                         | HG     | 51048                                                                                        | SC80C                      | C                   | 3                           | 14"-HL-51045-SC80C-C4    | 2"-FL-51051-SC16C-B      | 3285-A100-632-2042-DW-008 | Liq /Vap        | L= 30.48<br>V= 2.50 | -103           | -92.3          | -92.3                   | 104                  | 410                         | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 0        |
| 10"                        | HG     | 51057                                                                                        | CA100                      | B                   | -                           | 10"-HG-51160-CA100-B     | 18"-HG-51040-CA40-B      | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 2"                         | HG     | 51085                                                                                        | SC80C                      | C                   | 3                           | 2"-HG-51095-SC80C-C3     | PSV-51036                | 3285-A100-632-2042-DW-007 | GAS             | 4.92                | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 51086                                                                                        | SC80C                      | C                   | 3                           | 2"-HG-51095-SC80C-C3     | PSV-51037                | 3285-A100-632-2042-DW-007 | GAS             | 4.92                | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 3"                         | HG     | 51090                                                                                        | SC80C                      | C                   | 3                           | 14"-HG-51041-SC80C-C4    | 8"-FL-51143-SC16C-B      | 3285-A100-632-2042-DW-007 | GAS             | 4.92                | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 51092                                                                                        | CA100                      | B                   | -                           | 14"-HG-51026-CA100-B     | 4"-FL-51093-CA20-B       | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 206-232        | 206-232                 | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 2"                         | HG     | 51095                                                                                        | SC80C                      | C                   | 3                           | V-510                    | 2"-FL-51087-SC16C-B      | 3285-A100-632-2042-DW-007 | GAS             | 4.92                | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 10"                        | HG     | 51100                                                                                        | CA40                       | B                   | -                           | 18"-HG-51028-CA40-B      | PSV-51132                | 3285-A100-632-2042-DW-008 | GAS             | 1.31                | -20            | 83             | 83                      | 115                  | 405.2                       | 462                      | HIDROSTATICA   | 693                      | 1023                    | 2        |
| 2"                         | HG     | 51102                                                                                        | CA40                       | B                   | -                           | 18"-HG-51028-CA40-B      | 2"-FL-51103-CA20-B       | 3285-A100-632-2042-DW-008 | GAS             | 1.31                | -20            | 83             | 83                      | 115                  | 405.2                       | 440                      | HIDROSTATICA   | 660                      | 1023                    | 2        |

| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>la fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> <div>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE</div> |                             |                          |                          |                           |                 |                     |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 10 de 21        |          |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------|-----------------------------|--------------------------|--------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
|                            |        |                                                                                   |                            |                                                                                      |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                   |                            |                                                                                      |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                   |                            |                                                                                      |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                                      |                             |                          |                          |                           |                 |                     |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                                      |                             |                          |                          |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                                  | Espesor de aislamiento (in) | Desde                    | Hasta                    | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 6"                         | HG     | 51104                                                                             | CA100                      | B                                                                                    | -                           | 14"-HG-51026-CA100-B     | PSV-51133                | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1207                     | HIDROSTATICA   | 1810.5                   | 1023                    | 1        |
| 8"                         | HG     | 51107                                                                             | CA100                      | P                                                                                    | 1 1/2                       | 16"-HG-51025-CA100-P2    | A-511 (BOQUILLA A1)      | 3285-A100-632-2042-DW-019 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51108                                                                             | CA100                      | P                                                                                    | 1 1/2                       | 16"-HG-51025-CA100-P2    | A-511 (BOQUILLA A2)      | 3285-A100-632-2042-DW-019 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51109                                                                             | CA100                      | P                                                                                    | 1 1/2                       | 16"-HG-51025-CA100-P2    | A-511 (BOQUILLA A3)      | 3285-A100-632-2042-DW-019 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51110                                                                             | CA100                      | P                                                                                    | 1 1/2                       | 16"-HG-51025-CA100-P2    | A-511 (BOQUILLA A4)      | 3285-A100-632-2042-DW-019 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51113                                                                             | CA100                      | B                                                                                    | -                           | A-511 (BOQUILLA B1)      | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51114                                                                             | CA100                      | B                                                                                    | -                           | A-511 (BOQUILLA B2)      | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51115                                                                             | CA100                      | B                                                                                    | -                           | A-511 (BOQUILLA B3)      | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 8"                         | HG     | 51116                                                                             | CA100                      | B                                                                                    | -                           | A-511 (BOQUILLA B4)      | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 12"                        | HG     | 51125                                                                             | CA40                       | B                                                                                    | -                           | 18"-HG-51028-CA40-B      | 14"-FL-51126-CA20-B      | 3285-A100-632-2042-DW-008 | GAS             | 1.31                | -20            | 82.5           | 82.5                    | 115                  | 405.1                       | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 10"                        | HG     | 51144                                                                             | CA100                      | B                                                                                    | -                           | 14"-HG-51026-CA100-B     | 14"-HG-50002-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 0        |
| 12"                        | HG     | 51145                                                                             | CA100                      | B                                                                                    | -                           | 14"-HG-51026-CA100-B     | PV-51160 A               | 3285-A100-632-2042-DW-019 | GAS             | 0.0883              | -20            | 245            | 91                      | 275                  | 15                          | 70                       | HIDROSTATICA   | 105                      | 1023 Y 2009             | 1        |
| 8"                         | HG     | 51152                                                                             | CA100                      | P                                                                                    | 1 1/2                       | 16"-HG-51025-CA100-P2    | A-511 (BOQUILLA A5)      | 3285-A100-632-2042-DW-019 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 8"                         | HG     | 51153                                                                             | CA100                      | P                                                                                    | 1 1/2                       | 16"-HG-51025-CA100-P2    | A-511 (BOQUILLA A6)      | 3285-A100-632-2042-DW-019 | GAS             | 2.44                | 54             | 206-232        | 206-232                 | 262                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 8"                         | HG     | 51154                                                                             | CA100                      | B                                                                                    | -                           | A-511 (BOQUILLA B5)      | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 8"                         | HG     | 51155                                                                             | CA100                      | B                                                                                    | -                           | A-511 (BOQUILLA B6)      | 14"-HG-51026-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 2        |
| 10"                        | HG     | 51160                                                                             | CA100                      | B                                                                                    | -                           | 14"-HG-51026-CA100-B     | 10"-HG-51057-CA100-B     | 3285-A100-632-2042-DW-019 | GAS             | 3.01                | 54             | 120            | 120                     | 265                  | 860-960                     | 1150                     | HIDROSTATICA   | 1725                     | 1023                    | 1        |
| 3/4"                       | HG     | 51179                                                                             | SC40C                      | C                                                                                    | 4                           | 18"-HG-51028-CA40-B      | 3/4"-DR-51183-CB10-B     | 3285-A100-632-2042-DW-006 | GAS             | 1.31                | -80            | 82.5           | 82.5                    | 115                  | 405.2                       | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 3/4"                       | HG     | 51181                                                                             | SC40C                      | C                                                                                    | 4 1/2                       | 18"-HG-51005-SC40C-C41/2 | 3/4"-HG-52098-SC40C-C4   | 3285-A100-632-2042-DW-011 | GAS             | 2.67                | -115           | -102           | -102                    | 104                  | 405                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 18"                        | HG     | 51187                                                                             | CA100                      | B                                                                                    | -                           | SDV-51139                | K-511                    | 3285-A100-632-2042-DW-018 | GAS             | 1.49                | 54             | 113.9          | 113.9                   | 144                  | 489.3                       | 545                      | HIDROSTATICA   | 817.5                    | 1023                    | 2        |
| 8"                         | HG     | 52004                                                                             | SC40C                      | C                                                                                    | 3                           | T-520                    | E-521                    | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 27.64<br>V= 2.72 | -20            | -2.7           | -2.7                    | 104                  | 431                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 2        |
| 8"                         | HG     | 52010                                                                             | CA40                       | H                                                                                    | 1 1/2                       | E-520 (SKID #523)        | 10"-HG-52012-CA40-H11/2  | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.58<br>V= 5.17 | 54             | 209.7          | 209.7                   | 240                  | 436.17                      | 480                      | HIDROSTATICA   | 720                      | 1023                    | 0        |
| 8"                         | HG     | 52011                                                                             | CA40                       | H                                                                                    | 1 1/2                       | E-520 (SKID #523)        | 10"-HG-52012-CA40-H11/2  | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.58<br>V= 5.17 | 54             | 209.7          | 209.7                   | 240                  | 436.17                      | 480                      | HIDROSTATICA   | 720                      | 1023                    | 0        |
| 10"                        | HG     | 52012                                                                             | CA40                       | H                                                                                    | 1 1/2                       | 8"-HG-52011-CA40-H11/2   | T-520                    | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.58<br>V= 5.17 | 54             | 209.7          | 209.7                   | 240                  | 436.17                      | 480                      | HIDROSTATICA   | 720                      | 1023                    | 0        |
| 18"                        | HG     | 52018                                                                             | SC40C                      | C                                                                                    | 4                           | E-521 (SKID #522)        | E-511                    | 3285-A100-632-2042-DW-011 | GAS             | 2.18                | -60            | -49            | -49                     | 115                  | 398                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 6"                         | HG     | 52020                                                                             | SC40C                      | C                                                                                    | 3 1/2                       | 18"-HG-52018-SC40C-C4    | 6"-HG-52077-CA40-B       | 3285-A100-632-2042-DW-006 | GAS             | 2.18                | -60            | -49            | -49                     | 115                  | 398                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 6"                         | HG     | 52027                                                                             | SC40C                      | C                                                                                    | 3                           | V-520                    | E-521                    | 3285-A100-632-2042-DW-012 | GAS             | 2.72                | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 1        |
| 6"                         | HG     | 52032                                                                             | SC40C                      | C                                                                                    | 3                           | 8"-HG-52004-SC40C-C3     | PSV-52051                | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 27.64<br>V= 2.72 | -20            | -2.7           | -2.7                    | 104                  | 431                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 2        |
| 2"                         | HG     | 52036                                                                             | SC40C                      | C                                                                                    | 3                           | 4"-HG-52068-SC40C-C3     | 2"-FL-52076-SC16C-B      | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 27.64<br>V= 2.72 | -20            | -2.7           | -2.7                    | 104                  | 431                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 0        |
| 12"                        | HG     | 52059                                                                             | SC40C                      | C                                                                                    | 3 1/2                       | 18"-HG-51005-SC40C-C41/2 | 18"-HG-52018-SC40C-C4    | 3285-A100-632-2042-DW-011 | GAS             | 2.67                | -115           | -102           | -102                    | 104                  | 405                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 1        |
| 6"                         | HG     | 52068                                                                             | SC40C                      | C                                                                                    | 3                           | 8"-HG-52004-SC40C-C3     | PSV-52052                | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 27.64<br>V= 2.72 | -20            | -2.7           | -2.7                    | 104                  | 431                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 2        |
| 6"                         | HG     | 52077                                                                             | SC40C                      | C                                                                                    | 4                           | 6"-HG-52020-SC40C-C4     | 18"-HG-51028-CA40C-B     | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 27.64<br>V= 2.72 | -60            | -49            | -49                     | 104                  | 391                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |
| 12"                        | HG     | 52079                                                                             | SC40C                      | C                                                                                    | 3 1/2                       | E-521                    | 6"-HG-52029-SC40C-C3 1/2 | 3285-A100-632-2042-DW-011 | Liq /Vap        | L= 27.64<br>V= 2.72 | -60            | -7.6           | -7.6                    | 104                  | 431                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 1        |

| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                         |                        |                           |                 |                     |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 11 de 21        |          |  |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|-------------------------|------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|--|
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |  |
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |  |
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |  |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |  |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |  |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                   | Hasta                  | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |  |
| 3/4"                       | HG     | 52091                                                                             | SC40C                      | C                                                                         | 4                           | 18"-HG-52018-SC40C-C4   | 3/4"-HG-51179-SC40C-C4 | 3285-A100-632-2042-DW-006 | GAS             | 2.18                | -115           | -71            | -71                     | 115                  | 398                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |  |
| 3/4"                       | HG     | 52092                                                                             | SC40C                      | C                                                                         | 3                           | 6"-HG-52027-SC40C-C3    | 3/4"-CD-51184-SC16C-P1 | 3285-A100-632-2042-DW-011 | GAS             | 2.72                | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 2        |  |
| 3/4"                       | HG     | 52095                                                                             | SC40C                      | C                                                                         | 3                           | 8"-HG-52004-SC40C-C3    | 3/4"-CD-51185-SC16C-P1 | 3285-A100-632-2042-DW-011 | Liq /Vap        | L= 27.64<br>V= 2.72 | -60            | -7.6           | -7.6                    | 104                  | 431                         | 480                      | HIDROSTATICA   | 720                      | 1023                    | 2        |  |
| 3/4"                       | HG     | 52098                                                                             | SC40C                      | C                                                                         | 4                           | 18"-HG-52018-SC40C-C4   | 3/4"-CD-51186-SC16C-P1 | 3285-A100-632-2042-DW-011 | GAS             | 2.18                | -115           | -71            | -71                     | 115                  | 398                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |  |
| 18"                        | HG     | 52814                                                                             | SC40C                      | C                                                                         | 4                           | 18"-HG-51812-CA40-B     | 18"-HG-51028-CA40-B    | 3285-A100-632-2042-DW-006 | GAS             | 1.31                | -49            | 82.5           | 82.5                    | 115                  | 391                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2        |  |
| 8"                         | HG     | 54016                                                                             | CA40                       | P                                                                         | 1 1/2                       | T-540                   | CABEZAL A-540          | 3285-A100-632-2042-DW-014 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 2"                         | HG     | 54018                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P11/2  | 2"-FL-54119-CA20-B     | 3285-A100-632-2042-DW-014 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 1        |  |
| 4"                         | HG     | 54019                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P11/2  | PSV-54015              | 3285-A100-632-2042-DW-014 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 4"                         | HG     | 54020                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P11/2  | PSV-54014              | 3285-A100-632-2042-DW-014 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 8"                         | HG     | 54025                                                                             | CA40                       | H                                                                         | 2 1/2                       | 6"-HG-54026-CA40-H11/2  | T-540                  | 3285-A100-632-2042-DW-014 | Liq /Vap        | L= 29.38<br>V= 2.82 | 54             | 310.7          | 310.7                   | 350                  | 205.12                      | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 2        |  |
| 6"                         | HG     | 54026                                                                             | CA40                       | H                                                                         | 2                           | E-540 (SKID #541)       | 8"-HG-54025-CA40-H11/2 | 3285-A100-632-2042-DW-014 | Liq /Vap        | L= 29.38<br>V= 2.82 | 54             | 310.7          | 310.7                   | 350                  | 205.12                      | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 2        |  |
| 6"                         | HG     | 54027                                                                             | CA40                       | H                                                                         | 2                           | E-540 (SKID #541)       | 8"-HG-54025-CA40-H11/2 | 3285-A100-632-2042-DW-014 | Liq /Vap        | L= 29.38<br>V= 2.82 | 54             | 310.7          | 310.7                   | 350                  | 205.12                      | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 2        |  |
| 4"                         | HG     | 54037                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P1 1/2 | A540 (BOQUILLA A1)     | 3285-A100-632-2042-DW-015 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 4"                         | HG     | 54042                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P1 1/2 | A540 (BOQUILLA A2)     | 3285-A100-632-2042-DW-015 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 4"                         | HG     | 54053                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P1 1/2 | A540 (BOQUILLA A4)     | 3285-A100-632-2042-DW-015 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 4"                         | HG     | 54063                                                                             | CA40                       | P                                                                         | 1                           | 8"-HG-54016-CA40-P1 1/2 | A540 (BOQUILLA A3)     | 3285-A100-632-2042-DW-015 | GAS             | 2.09                | 54             | 145            | 145                     | 350                  | 200                         | 235                      | HIDROSTATICA   | 352.5                    | 1023                    | 0        |  |
| 4"                         | HG     | 55001                                                                             | CA20                       | P                                                                         | 1                           | T-550                   | A-550                  | 3285-A100-632-2042-DW-016 | GAS             | 1.38                | 54             | 226            | 226                     | 300                  | 101                         | 140                      | HIDROSTATICA   | 210                      | 1023                    | 0        |  |
| 3"                         | HG     | 55002                                                                             | CA20                       | P                                                                         | 1                           | 4"-HG-55001-CA20-P1     | PSV-55001              | 3285-A100-632-2042-DW-016 | GAS             | 1.38                | 54             | 226            | 226                     | 300                  | 101                         | 140                      | HIDROSTATICA   | 210                      | 1023                    | 0        |  |
| 3"                         | HG     | 55003                                                                             | CA20                       | P                                                                         | 1                           | 4"-HG-55001-CA20-P1     | PSV-55002              | 3285-A100-632-2042-DW-016 | GAS             | 1.38                | 54             | 226            | 226                     | 300                  | 101                         | 140                      | HIDROSTATICA   | 210                      | 1023                    | 0        |  |
| 2"                         | HG     | 55014                                                                             | CA20                       | P                                                                         | 1                           | V-550                   | PV-55033               | 3285-A100-632-2042-DW-017 | GAS             | 32.61               | 54             | 221            | 221                     | 260                  | 96                          | 140                      | HIDROSTATICA   | 210                      | 1023                    | 0        |  |
| 2"                         | HG     | 55016                                                                             | CA20                       | P                                                                         | 1                           | A-550                   | V-550                  | 3285-A100-632-2042-DW-017 | Liq /Vap        | L= 32.61<br>V= 1.32 | 54             | 221            | 221                     | 260                  | 96                          | 140                      | HIDROSTATICA   | 210                      | 1023                    | 0        |  |
| 4"                         | HG     | 55017                                                                             | CA20                       | H                                                                         | 1 1/2                       | E-550 (SKID #541)       | T-550                  | 3285-A100-632-2042-DW-016 | Liq /Vap        | L= 32.66<br>V= 1.45 | 54             | 266.8          | 266.8                   | 300                  | 106.26                      | 140                      | HIDROSTATICA   | 210                      | 1023                    | 2        |  |
| 2"                         | HG     | 55149                                                                             | CA20                       | P                                                                         | 1                           | 4"-HG-55001-CA20-P1     | 2"-FL-55021-CA20-B     | 3285-A100-632-2042-DW-016 | GAS             | 1.38                | 54             | 226            | 226                     | 300                  | 101                         | 140                      | HIDROSTATICA   | 210                      | 1023                    | 0        |  |
| 1"                         | HL     | 01004                                                                             | CA40                       | B                                                                         | -                           | V-011 (SKID #010)       | 1"-DR-01002-CB10-B     | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 27.79               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 8002                    | 0        |  |
| 2"                         | HL     | 01014                                                                             | CA40                       | B                                                                         | -                           | V-011 (SKID #010)       | STAND PIPE LG-01105/06 | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 27.79               | 54             | 104            | 104                     | 135                  | 300                         | 330                      | HIDROSTATICA   | 495                      | 8002                    | 0        |  |
| 2"                         | HL     | 01015                                                                             | CA20                       | B                                                                         | -                           | V-012 (SKID #010)       | STAND PIPE LG-01205/06 | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 34.34               | 41             | 92             | 92                      | 125                  | 100                         | 130                      | HIDROSTATICA   | 195                      | 8002                    | 0        |  |
| 2"                         | HL     | 50075                                                                             | CA100                      | B                                                                         | -                           | F-501                   | 2"-DR-50078-CB10-B     | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 44                  | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 1        |  |
| 2"                         | HL     | 50076                                                                             | CA100                      | B                                                                         | -                           | F-501                   | 2"-DR-50079-CB10-B     | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 44                  | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 1        |  |
| 2"                         | HL     | 50123                                                                             | SC80                       | H                                                                         | 1                           | STANDPIPE LG-50068      | V-502                  | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 61.86               | 54             | 120            | 120                     | 120                  | 765                         | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 1        |  |
| 2"                         | HL     | 50423                                                                             | CA20                       | B                                                                         | -                           | 2"-HL-54001-CA20-B      | 2"-DR-50430-CB10-B     | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 104                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1        |  |
| 3/4"                       | HL     | 50468                                                                             | CA100                      | B                                                                         | -                           | F-501                   | 3/4"-DR-50469-CB10-B   | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 44                  | 54             | 88             | 88                      | 120                  | 806.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 0        |  |
| 2"                         | HL     | 50474                                                                             | CA100                      | B                                                                         | -                           | F-502A                  | 3/4"-DR-50478-CB10-B   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25               | 54             | 120            | 87.05                   | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2        |  |
| 2"                         | HL     | 50475                                                                             | CA100                      | B                                                                         | -                           | F-502A                  | 3/4"-DR-50479-CB10-B   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25               | 54             | 120            | 87.05                   | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2        |  |

| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                         |                        |                           |                 |                     |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 12 de 21        |          |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|-------------------------|------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                           |                             |                         |                        |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                   | Hasta                  | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | HL     | 50476                                                                             | CA100                      | B                                                                         | -                           | F-502B                  | 3/4"-DR-50480-CB10-B   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25               | 54             | 120            | 87.05                   | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2        |
| 2"                         | HL     | 50477                                                                             | CA100                      | B                                                                         | -                           | F-502B                  | 3/4"-DR-50481-CB10-B   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25               | 54             | 120            | 87.05                   | 120                  | 790.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2        |
| 6"                         | HL     | 51001                                                                             | SC40C                      | C                                                                         | 3 1/2                       | 6"-HL-51002-SC40C-C31/2 | P-510 B (SKID #522)    | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 427.4                       | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 6"                         | HL     | 51002                                                                             | SC40C                      | C                                                                         | 3 1/2                       | T-510                   | P-510 A (SKID #522)    | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 427.4                       | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 4"                         | HL     | 51003                                                                             | SC40C                      | C                                                                         | 3                           | P-510 B (SKID #522)     | 4"-HL-51004-SC40C-C3   | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 475.7                       | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0        |
| 4"                         | HL     | 51004                                                                             | SC40C                      | C                                                                         | 3                           | P-510 A                 | E-511                  | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 475.7                       | 480                      | HIDROSTATICA   | 720                      | 8002                    | 1        |
| 3"                         | HL     | 51006                                                                             | SC40C                      | C                                                                         | 3                           | 4"-HL-51003-SC40C-C3    | T-510                  | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 475.7                       | 480                      | HIDROSTATICA   | 720                      | 8002                    | 1        |
| 14"                        | HL     | 51027                                                                             | SC80C                      | C                                                                         | 4                           | E-511 (SKID #511)       | V-510                  | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 28.68<br>V=4.92  | -55            | -43.4          | -43.4                   | 120                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 0        |
| 6"                         | HL     | 51029                                                                             | CA40                       | C                                                                         | 2                           | 6"-HL-51815-SC40C-C2    | T-520                  | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 30.29<br>V= 2.58 | -20            | 14             | 14                      | 104                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2        |
| 14"                        | HL     | 51045                                                                             | SC80C                      | C                                                                         | 4                           | X-510                   | HV-51061               | 3285-A100-632-2042-DW-008 | LÍQUIDO         | L= 30.48<br>V= 2.50 | -103           | -92.3          | -92.3                   | 104                  | 424.2                       | 545                      | HIDROSTATICA   | 817.5                    | 8002                    | 0        |
| 4"                         | HL     | 51053                                                                             | SC80C                      | C                                                                         | 3                           | V-510                   | 4"-HL-51138-SC40C-C3   | 3285-A100-632-2042-DW-007 | Liq /Vap        | L= 33.33<br>V= 2.49 | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 0        |
| 2"                         | HL     | 51054                                                                             | SC80C                      | C                                                                         | 3                           | V-510                   | STANDPIPE LG-51039     | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 28.68               | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 0        |
| 4"                         | HL     | 51055                                                                             | CA40                       | B                                                                         | -                           | 4"-HL-51814-SC80C-C3    | T-520                  | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 32.60<br>V= 2.36 | -20            | 82.5           | 82.5                    | 115                  | 443                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2        |
| 2"                         | HL     | 51058                                                                             | SC40C                      | C                                                                         | 3                           | T-510                   | STAND PIPE LG-51079    | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 2"                         | HL     | 51062                                                                             | SC40C                      | C                                                                         | 3                           | V-520                   | 2"-CD-52063-SC16C-P1   | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0        |
| 3"                         | HL     | 51065                                                                             | CA40                       | C                                                                         | 3                           | 2"-HL-51142-SC40C-C3    | 6"-HL-51029-CA40-C2    | 3285-A100-632-2042-DW-006 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 2"                         | HL     | 51073                                                                             | SC80C                      | C                                                                         | 4                           | X-510 (SKID #512)       | 3/4"-OD-51072-CB10-B   | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 30.48               | -105           | -92.3          | -92.3                   | 104                  | 424.2                       | 545                      | HIDROSTATICA   | 817.5                    | 8002                    | 0        |
| 2"                         | HL     | 51074                                                                             | CA40                       | B                                                                         | -                           | K-510 (SKID #512)       | 3/4"-OD-51075-CB10-B   | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1                | 54             | 113.9          | 113.9                   | 144                  | 489.3                       | 545                      | HIDROSTATICA   | 817.5                    | 8002                    | 0        |
| 2"                         | HL     | 51077                                                                             | SC80C                      | C                                                                         | 3                           | V-510                   | 2"-CD-51079-SC16C-P1   | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 28.68               | -55            | -43.4          | -43.4                   | 104                  | 793.6                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 1        |
| 2"                         | HL     | 51120                                                                             | SC40C                      | C                                                                         | 3                           | 6"-HL-51002-SC40C-C31/2 | 2"-CD-51121-SC16C-B    | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 427.4                       | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 14"                        | HL     | 51137                                                                             | SC40C                      | C                                                                         | 4                           | HV-51061                | T-510                  | 3285-A100-632-2042-DW-008 | Liq /Vap        | L= 30.48<br>V= 2.50 | -115           | -92.3          | -92.3                   | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 4"                         | HL     | 51138                                                                             | SC40C                      | C                                                                         | 3                           | 4"-HL-51053-SC80C-C3    | E-511 (SKID #511)      | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 33.33<br>V= 2.49 | -80            | -68.8          | -68.8                   | 115                  | 450                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0        |
| 3"                         | HL     | 51142                                                                             | SC40C                      | C                                                                         | 3                           | 4"HL-51004-SC40C-C3     | TV-51010               | 3285-A100-632-2042-DW-013 | Liq /Vap        | L= 30.48<br>V= 2.57 | -115           | -92.3          | -92.3                   | 104                  | 443                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2        |
| 4"                         | HL     | 51156                                                                             | SC80C                      | C                                                                         | 3                           | 4"-HL-51053-SC80C-C3    | 4"-HL-51055-CA40-B     | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 30.48<br>V= 2.57 | -55            | -43.4          | -43.4                   | 104                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2        |
| 4"                         | HL     | 51157                                                                             | CA40                       | B                                                                         | -                           | 2"-HL-51156-SC80C-C3    | 4"-HL-51055-CA40-B     | 3285-A100-632-2042-DW-006 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 3"                         | HL     | 51159                                                                             | SC40C                      | C                                                                         | 3                           | 4"-HL-51004-SC40C-C3    | 3"-HL-51006-SC40C-C3   | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 3/4"                       | HL     | 51162                                                                             | SC40C                      | C                                                                         | 3                           | 3"-HL-51006-SC40C-C3    | P-510 A                | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.75               | -115           | -94            | -94                     | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 3/4"                       | HL     | 51163                                                                             | SC40C                      | C                                                                         | 3                           | 3/4"-HL-51162-SC40C-C3  | P-510 B                | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.75               | -115           | -94            | -94                     | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 0        |
| 1 1/2"                     | HL     | 51166                                                                             | SC40C                      | C                                                                         | 3                           | E-511 (SKID #511)       | 11/2"-DR-51167-CB10-B  | 3285-A100-632-2042-DW-006 | Liq /Vap        | 32.6                | -80            | 82.5           | 82.5                    | 115                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2        |
| 3/4"                       | HL     | 51168                                                                             | SC40C                      | C                                                                         | 3                           | P-510A                  | 3/4"-CD-51170-SC16C-P1 | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 427.4                       | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 2        |
| 3/4"                       | HL     | 51171                                                                             | SC40C                      | C                                                                         | 3                           | P-510B                  | 3/4"-CD-51173-SC16C-P1 | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 29.84               | -115           | -94            | -94                     | 104                  | 427.4                       | 455                      | HIDROSTATICA   | 682.5                    | 8002                    | 2        |
| 2"                         | HL     | 51174                                                                             | SC80C                      | C                                                                         | 4                           | DRENAJE X-510           | 2"-HL-51073-SC80-C4    | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 30.48               | -105           | -92.3          | -92.3                   | 104                  | 424.2                       | 545                      | HIDROSTATICA   | 817.5                    | 8002                    | 2        |
| 2"                         | HL     | 51175                                                                             | SC80C                      | C                                                                         | 4                           | DRENAJE K-510           | 2"-HL-51074-CA40-B     | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1                | 54             | 113.9          | 113.9                   | 144                  | 489.3                       | 545                      | HIDROSTATICA   | 817.5                    | 8002                    | 2        |

| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>la fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                          |                        |                           |                 |                     |                |                |                         |                      |                             | Fecha                    | Realizó        | Revisó                   | Aprobó                  | Página: 13 de 21 |          |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|--------------------------|------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|------------------|----------|
|                            |        |                                                                                   |                            |                                                                           |                             |                          |                        |                           |                 |                     |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | Versión          | Revisión |
|                            |        |                                                                                   |                            |                                                                           |                             |                          |                        |                           |                 |                     |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | 2                | 2        |
|                            |        |                                                                                   |                            |                                                                           |                             |                          |                        |                           |                 |                     |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   |                  |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                           |                             |                          |                        |                           |                 |                     |                |                |                         |                      |                             | NOTAS                    |                |                          |                         |                  |          |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                           |                             |                          |                        |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |                  |          |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                    | Hasta                  | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión         |          |
| 3/4"                       | HL     | 51177                                                                             | SC80C                      | C                                                                         | 4                           | 14"-HL-51027-SC80C-C4    | 3/4"-HG-50135-SC80C-C4 | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 28.68<br>V=4.92  | -55            | -43.4          | -43.4                   | 120                  | 779.4                       | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2                |          |
| 18"                        | HG     | 51812                                                                             | CA40                       | B                                                                         | -                           | E-511 (SKID #511)        | 18"-HG-52814-SC40C-C4  | 3285-A100-632-2042-DW-006 | GAS             | 1.31                | -20            | 82.5           | 82.5                    | 115                  | 391                         | 455                      | HIDROSTATICA   | 682.5                    | 1023                    | 2                |          |
| 4"                         | HL     | 51813                                                                             | CA40                       | B                                                                         | -                           | E-511 (SKID #511)        | 4"-HL-51814-SC80C-C3   | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 32.60<br>V= 2.36 | -20            | 82.5           | 82.5                    | 115                  | 443                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 4"                         | HL     | 51814                                                                             | SC80C                      | C                                                                         | 3                           | 4"-HL-51813-CA40-B       | 4"-HL-51055-CA40-B     | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 32.60<br>V= 2.36 | -43.4          | 82.5           | 82.5                    | 115                  | 443                         | 1150                     | HIDROSTATICA   | 1725                     | 8002                    | 2                |          |
| 6"                         | HL     | 51815                                                                             | SC40C                      | C                                                                         | 2                           | 6"-HL-51816-CA40-C2      | 6"-HL-51029-CA40-C2    | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 30.29<br>V= 2.58 | -93            | 14             | 14                      | 104                  | 443                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 6"                         | HL     | 51816                                                                             | CA40                       | C                                                                         | 2                           | E-511 (SKID #511)        | 6"-HL-51815-SC40C-C2   | 3285-A100-632-2042-DW-006 | Liq /Vap        | L= 30.29<br>V= 2.58 | -20            | 14             | 14                      | 104                  | 443                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 6"                         | HL     | 52001                                                                             | SC40C                      | C                                                                         | 3 1/2                       | E-521 (SKID #522)        | T-510                  | 3285-A100-632-2042-DW-011 | Liq /Vap        | L= 26.99<br>V= 2.68 | -115           | -95.3          | -95.3                   | 104                  | 417                         | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 0                |          |
| 6"                         | HL     | 52013                                                                             | CA40                       | H                                                                         | 1 1/2                       | E-520 (SKID #523)        | T-520                  | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.35<br>V= 5.15 | 54             | 209.8          | 209.8                   | 240                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 12"                        | HL     | 52014                                                                             | CA40                       | H                                                                         | 1 1/2                       | T-520                    | E-520 (SKID #523)      | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.35<br>V= 5.15 | -10            | 197.5          | 197.5                   | 265                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 6"                         | HL     | 52021                                                                             | SC40C                      | C                                                                         | 3                           | E-521 (SKID #522)        | E-511 (SKID #511)      | 3285-A100-632-2042-DW-011 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | B                |          |
| 8"                         | HL     | 52022                                                                             | SC40C                      | C                                                                         | 3 1/2                       | E-521 (SKID #522)        | V-520                  | 3285-A100-632-2042-DW-011 | Liq /Vap        | L= 27.64<br>V= 2.72 | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 6"                         | HL     | 52023                                                                             | SC40C                      | C                                                                         | 3 1/2                       | V-520                    | P-520 A (SKID #522)    | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 0                |          |
| 6"                         | HL     | 52024                                                                             | SC40C                      | C                                                                         | 3 1/2                       | 6"-HL-52023-SC40C-C31/2  | P-520 B (SKID #522)    | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 0                |          |
| 4"                         | HL     | 52025                                                                             | SC40C                      | C                                                                         | 3                           | P-520 B                  | 4"-HL-52026-SC40C-C3   | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 467.1                       | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 0                |          |
| 4"                         | HL     | 52026                                                                             | SC40C                      | C                                                                         | 3                           | P-520 A                  | FV-52063               | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 467.1                       | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 1                |          |
| 6"                         | HL     | 52028                                                                             | SC40C                      | C                                                                         | 3                           | 6"-HG-52027-SC40C-C3     | E-521 (SKID #522)      | 3285-A100-632-2042-DW-012 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | B                |          |
| 2"                         | HL     | 52029                                                                             | SC40C                      | C                                                                         | 3                           | 4"-HL-52026-SC40C-C3     | 6"-HL-52028-SC40C-C3   | 3285-A100-632-2042-DW-012 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          |                         | B                |          |
| 3"                         | HL     | 52030                                                                             | SC40C                      | C                                                                         | 3                           | FV-52063                 | T-520                  | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 3"                         | HL     | 52031                                                                             | SC40C                      | C                                                                         | 3                           | 4"-HL-52025-SC40C-C3     | V-520                  | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 467.1                       | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 0                |          |
| 2"                         | HL     | 52038                                                                             | CA40                       | P                                                                         | 1                           | T-520                    | 2"-DR-52041-CB10-B     | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.35               | -10            | 209.7          | 209.7                   | 265                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 4"                         | HL     | 52042                                                                             | CA40                       | H                                                                         | 1 1/2                       | T-520                    | T-540                  | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 30.33<br>V= 2.09 | -10            | 149.4          | 149.4                   | 265                  | 205                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 2"                         | HL     | 52045                                                                             | CA40                       | H                                                                         | 1 1/2                       | STANDPIPE LG-52013       | T-520                  | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.35               | 54             | 209.8          | 209.8                   | 240                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 2"                         | HL     | 52046                                                                             | CA40                       | P                                                                         | 1                           | E-520 (SKID #523)        | 2"-DR-52048-CB10-B     | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.58<br>V= 5.17 | 54             | 209.7          | 209.7                   | 240                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 2"                         | HL     | 52050                                                                             | CA40                       | P                                                                         | 1                           | E-520 (SKID #523)        | 2"-DR-52051-CB10-B     | 3285-A100-632-2042-DW-010 | Liq /Vap        | L= 24.58<br>V= 5.17 | 54             | 209.7          | 209.7                   | 240                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 2"                         | HL     | 52061                                                                             | SC40C                      | C                                                                         | 3                           | V-520                    | STAND PIPE LG-52055    | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 3"                         | HL     | 52078                                                                             | SC40C                      | C                                                                         | 3                           | 4"-HL-52026-SC40C-C3     | 3"-HL-52031-SC40C-C3   | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 3/4"                       | HL     | 52080                                                                             | SC40C                      | C                                                                         | 3                           | 3"-HL-52031-SC40C-C3     | P-520 A                | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -32.3          | -32.3                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 3/4"                       | HL     | 52081                                                                             | SC40C                      | C                                                                         | 3                           | 3/4"-HL-52080-SC40C-C3   | P-520 B                | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -32.3          | -32.3                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 0                |          |
| 3/4"                       | HL     | 52084                                                                             | SC40C                      | C                                                                         | 3                           | P-520A                   | 3/4"-CD-52085-SC16C-P1 | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 3/4"                       | HL     | 52087                                                                             | SC40C                      | C                                                                         | 3                           | P-520B                   | 3/4"-CD-52088-SC16C-P1 | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 27.64               | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 2"                         | HL     | 52090                                                                             | CA40                       | P                                                                         | 1                           | E-520 (SKID #523)        | STAND PIPE LG-52151    | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 24.58               | 54             | 209.7          | 209.7                   | 240                  | 436                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |
| 3/4"                       | HL     | 52093                                                                             | SC40C                      | C                                                                         | 3 1/2                       | 6"-HL-52001-SC40C-C3 1/2 | 3/4-HG-52092-SC40C-C3  | 3285-A100-632-2042-DW-011 | Liq /Vap        | L= 26.99<br>V= 2.68 | -115           | -95.3          | -95.3                   | 104                  | 417                         | 525                      | HIDROSTATICA   | 787.5                    | 8002                    | 2                |          |
| 3/4"                       | HL     | 52096                                                                             | SC40C                      | C                                                                         | 3 1/2                       | 8"-HL-52022-SC40C-C3 1/2 | 3/4"-HG-52095-SC40C-C3 | 3285-A100-632-2042-DW-011 | Liq /Vap        | L= 27.64<br>V= 2.72 | -60            | -50.7          | -50.7                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 8002                    | 2                |          |

| AESA              |        | <br>Corporación<br><small>La fuerza que impulsa el BARRIO</small> |                            | PROYECTO:<br><br><div>OBM 3285</div> <div>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE</div> |                             |                      |                               |                           |                 |                     |                |                |                         |                      |                             | Fecha                    | Realizó        | Revisó                   | Aprobó                  | Página: 14 de 21 |          |
|-------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|-----------------------------|----------------------|-------------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|------------------|----------|
| DOCUMENTO AESA N° |        | 3285-A100-632-2045-LL-100                                                                                                                         |                            |                                                                                             |                             |                      |                               |                           |                 |                     |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | Versión          | Revisión |
|                   |        |                                                                                                                                                   |                            |                                                                                             |                             |                      |                               |                           |                 |                     |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | 2                | 2        |
|                   |        |                                                                                                                                                   |                            |                                                                                             |                             |                      |                               |                           |                 |                     |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   |                  |          |
|                   |        |                                                                                                                                                   |                            | LISTA DE LÍNEAS                                                                             |                             |                      |                               |                           |                 |                     |                |                |                         |                      |                             | NOTAS                    |                |                          |                         |                  |          |
| Diámetros (in)    | Fluido | Número de línea                                                                                                                                   | Especificación de Material | Tipo de aislamiento                                                                         | Espesor de aislamiento (in) | Desde                | Hasta                         | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión         |          |
| 2"                | HL     | 54001                                                                                                                                             | CA20                       | B                                                                                           | -                           | E-541 (SKID #542)    | LV-55023                      | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 300                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0                |          |
| 2"                | HL     | 54002                                                                                                                                             | CA20                       | B                                                                                           | -                           | 2"-HL-54003-CA20-B   | SDV-54010                     | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 104                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1                |          |
| 2"                | HL     | 54003                                                                                                                                             | CA20                       | B                                                                                           | -                           | LV-55023             | TK-860 A                      | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 134                  | 0                           | 50                       | HIDROSTATICA   | 75                       | 8002                    | 1                |          |
| 3"                | HL     | 54004                                                                                                                                             | CA40                       | B                                                                                           | -                           | A-540 (BOQUILLA B3)  | 6"-HL-54017-CA40-B            | 3285-A100-632-2042-DW-015 | Liq /Vap        | L= 29.65<br>V= 1.99 | 54             | 125            | 125                     | 175                  | 196.39                      | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 6"                | HL     | 54005                                                                                                                                             | CA40                       | B                                                                                           | -                           | 6"-HL-54006-CA40-B   | P-540 A (SKID #540)           | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 175                  | 197.7                       | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 6"                | HL     | 54006                                                                                                                                             | CA40                       | B                                                                                           | -                           | V-540                | P-540 B (SKID #540)           | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 175                  | 197.7                       | 290                      | HIDROSTATICA   | 435                      | 8002                    | 0                |          |
| 4"                | HL     | 54007                                                                                                                                             | CA40                       | B                                                                                           | -                           | P-540 B (SKID #540)  | 4"-HL-54008-CA40-B            | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 235                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 0                |          |
| 4"                | HL     | 54008                                                                                                                                             | CA40                       | B                                                                                           | -                           | P-540 A (SKID #540)  | 3"-HL-54010-CA40-B            | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 235                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 1                |          |
| 3"                | HL     | 54010                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54008-CA40-B   | T-540                         | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 235                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 1                |          |
| 4"                | HL     | 54013                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54015-CA40-B   | V-970/971                     | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 195                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 1                |          |
| 4"                | HL     | 54015                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54008-CA40-B   | ALMACENAMIENTO DE GLP         | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 195                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 1                |          |
| 6"                | HL     | 54017                                                                                                                                             | CA40                       | B                                                                                           | -                           | CABEZAL SALIDA A-540 | V-540                         | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 175                  | 196.39                      | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 6"                | HL     | 54030                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | T-540                | E-540 (SKID #541)             | 3285-A100-632-2042-DW-014 | Liq /Vap        | L= 29.28<br>V= 2.82 | 54             | 300.3          | 300.3                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 1 1/2"            | HL     | 54032                                                                                                                                             | CA20                       | H                                                                                           | 1                           | 2"-HL-54106-CA40-H1  | T-550                         | 3285-A100-632-2042-DW-014 | Liq /Vap        | L= 32.67<br>V= 1.44 | 54             | 256.9          | 256.9                   | 300                  | 106                         | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1                |          |
| 6"                | HL     | 54033                                                                                                                                             | CA20                       | P                                                                                           | 1                           | E-541 (SKID #542)    | PSV-54007                     | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 300                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0                |          |
| 6"                | HL     | 54034                                                                                                                                             | CA20                       | P                                                                                           | 1                           | 6"-HL-54033-CA20-P1  | PSV-54011                     | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 300                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 2                |          |
| 3"                | HL     | 54044                                                                                                                                             | CA40                       | B                                                                                           | -                           | A-540 (BOQUILLA B2)  | 6"-HL-54017-CA40-B            | 3285-A100-632-2042-DW-015 | Liq /Vap        | L= 29.65<br>V= 1.99 | 54             | 125            | 125                     | 175                  | 196.39                      | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 3"                | HL     | 54045                                                                                                                                             | CA40                       | B                                                                                           | -                           | A-540 (BOQUILLA B4)  | 6"-HL-54017-CA40-B            | 3285-A100-632-2042-DW-015 | Liq /Vap        | L= 29.65<br>V= 1.99 | 54             | 125            | 125                     | 175                  | 196.39                      | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 2"                | HL     | 54046                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | E-540 (SKID #541)    | STAND PIPE LG-54029           | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.38               | 54             | 310.7          | 310.7                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 2"                | HL     | 54047                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | E-540 (SKID #541)    | 2"-DR-54054-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.38               | 54             | 310.7          | 310.7                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 2"                | HL     | 54048                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | E-540 (SKID #541)    | 2"-DR-54055-CA20-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.28               | 54             | 310.7          | 310.7                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 2"                | HL     | 54051                                                                                                                                             | CA20                       | P                                                                                           | 1                           | 6"-HL-54033-CA20-P1  | 6"-FL-54035-CA20-B            | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 300                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0                |          |
| 2"                | HL     | 54052                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | T-540                | 2"-DR-50417-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.28               | 54             | 300.3          | 300.3                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 2"                | HL     | 54057                                                                                                                                             | CA40                       | B                                                                                           | -                           | V-540                | STAND PIPE LG-54043           | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 175                  | 195                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 2"                | HL     | 54064                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54015-CA40-B   | TSV-54078                     | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 195                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 0                |          |
| 2"                | HL     | 54066                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54013-CA40-B   | TSV-54076                     | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 195                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 0                |          |
| 2"                | HL     | 54068                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | T-540                | STAND PIPE LG-54063           | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.28               | 54             | 300.3          | 300.3                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 2"                | HL     | 54104                                                                                                                                             | CB10                       | B                                                                                           | -                           | SDV-54010            | COLECTOR DE DRENAJES CERRADOS | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23               | 54             | 104            | 104                     | 104                  | 106.46                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1                |          |
| 3"                | HL     | 54105                                                                                                                                             | CA40                       | B                                                                                           | -                           | A-540 (BOQUILLA B1)  | 6"-HL-54017-CA40-B            | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 175                  | 196.39                      | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 0                |          |
| 2"                | HL     | 54106                                                                                                                                             | CA40                       | H                                                                                           | 1 1/2                       | E-540 (SKID #541)    | LV-54029                      | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 29.38               | 54             | 310.5          | 310.5                   | 350                  | 205                         | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2                |          |
| 3"                | HL     | 54116                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54008-CA40-B   | 4"-HL-54117-CA40-B            | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 235                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 0                |          |
| 3"                | HL     | 54117                                                                                                                                             | CA40                       | B                                                                                           | -                           | 4"-HL-54007-CA40-B   | V-540                         | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 29.65               | 54             | 125            | 125                     | 155                  | 235                         | 290                      | HIDROSTATICA   | 435                      | 8002                    | 0                |          |
| 4"                | HL     | 54118                                                                                                                                             | CA20                       | B                                                                                           | -                           | 2"-HL-54003-CA20-B   | TK-860B                       | 3285-A100-632-2042-DW-001 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          | 1                       |                  |          |

| <div><div>AESA</div></div> |        | <div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                         |                             |                           |                 |                     |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 15 de 21        |          |
|----------------------------|--------|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|-------------------------|-----------------------------|---------------------------|-----------------|---------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                             |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                             |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                   |                            |                                                                           |                             |                         |                             |                           |                 |                     |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                         |                            |                                                                           |                             |                         |                             |                           |                 |                     |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                   |                            | LISTA DE LÍNEAS                                                           |                             |                         |                             |                           |                 |                     |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                   | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                   | Hasta                       | Número de P&ID            | Fase del fluido | Densidad (lb/pie3)  | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | HL     | 55007                                                                             | CA20                       | P                                                                         | 1                           | E-550                   | E-541 (SKID #542)           | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.66               | 54             | 266.8          | 266.8                   | 300                  | 105.56                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 2"                         | HL     | 55008                                                                             | CA20                       | P                                                                         | 1                           | 2"-HL-55012-CA20-P1     | T-550                       | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 300                  | 134.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 2"                         | HL     | 55009                                                                             | CA20                       | P                                                                         | 1                           | 2"-HL-55010-CA20-P1     | P-550 A (SKID #540)         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 260                  | 99.1                        | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1        |
| 2"                         | HL     | 55010                                                                             | CA20                       | P                                                                         | 1                           | V-550                   | P-550 B (SKID #540)         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 260                  | 99.1                        | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1        |
| 2"                         | HL     | 55011                                                                             | CA20                       | P                                                                         | 1                           | P-550 B (SKID #540)     | 2"-HL-55008-CA20-P1         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 300                  | 134.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 2"                         | HL     | 55012                                                                             | CA20                       | P                                                                         | 1                           | P-550 A (SKID #540)     | 2"-HL-55011-CA20-P1         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 300                  | 134.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1        |
| 3"                         | HL     | 55017                                                                             | CA20                       | B                                                                         | -                           | PV-55059                | V-980 B                     | 3285-A100-632-2042-DW-017 | ELIMINADA       |                     |                |                |                         |                      |                             |                          |                |                          | 1                       |          |
| 3"                         | HL     | 55018                                                                             | CA20                       | H                                                                         | 1 1/2                       | T-550                   | E-550 (SKID #541)           | 3285-A100-632-2042-DW-016 | Liq /Vap        | L= 32.57<br>V= 1.35 | 54             | 256.4          | 256.4                   | 300                  | 106.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 2"                         | HL     | 55024                                                                             | CA20                       | H                                                                         | 1 1/2                       | E-550 (SKID #541)       | 2"-DR-55022-CB10-B          | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.57               | 54             | 256.4          | 256.4                   | 300                  | 106.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 2        |
| 2"                         | HL     | 55025                                                                             | CA20                       | H                                                                         | 1 1/2                       | E-550 (SKID #541)       | 2"-DR-55027 -CB10-B         | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.66               | 54             | 266.8          | 266.8                   | 300                  | 106.26                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 2        |
| 2"                         | HL     | 55041                                                                             | CA20                       | P                                                                         | 1                           | 2"-HL-55008-CA20-P1     | A-551                       | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.66               | 54             | 221            | 221                     | 300                  | 96                          | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 2"                         | HL     | 55042                                                                             | CA20                       | B                                                                         | -                           | A-551                   | V-980 A                     | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 36.87               | 54             | 122            | 122                     | 260                  | 25                          | 50                       | HIDROSTATICA   | 75                       | 8002                    | 1        |
| 2"                         | HL     | 55051                                                                             | CA20                       | P                                                                         | 1                           | V-550                   | STAND PIPE LG-55036         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 260                  | 96                          | 140                      | HIDROSTATICA   | 210                      | 8002                    | 1        |
| 2"                         | HL     | 55056                                                                             | CA20                       | H                                                                         | 1 1/2                       | E-550 (SKID #541)       | STAND PIPE LG-55023         | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.66               | 54             | 266.8          | 266.8                   | 300                  | 106.26                      | 140                      | HIDROSTATICA   | 210                      | 8002                    | 2        |
| 2"                         | HL     | 55066                                                                             | CA20                       | H                                                                         | 1 1/2                       | T-550                   | STAND PIPE LG-55024         | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 32.57               | 54             | 256.4          | 256.4                   | 300                  | 106.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 2        |
| 3/4"                       | HL     | 55067                                                                             | CA20                       | B                                                                         | -                           | 2"-HL-55042-CA20-B      | TOMA MUESTRAS SC-55048      | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 36.87               | 54             | 122            | 122                     | 260                  | 25                          | 50                       | HIDROSTATICA   | 75                       | 8002                    | 2        |
| 3/4"                       | HL     | 55068                                                                             | CA20                       | B                                                                         | -                           | TOMA MUESTRAS SC-55048  | 2"-HL-55042-CA20-B SC-55048 | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 36.87               | 54             | 122            | 122                     | 260                  | 25                          | 50                       | HIDROSTATICA   | 75                       | 8002                    | 2        |
| 2"                         | HL     | 55156                                                                             | CA20                       | P                                                                         | 1                           | 2"-HL-55012-CA20-P1     | 2"-HL-55157-CA20-P1         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 300                  | 134.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 2"                         | HL     | 55157                                                                             | CA20                       | P                                                                         | 1                           | 2"-HL-55011-CA20-P1     | V-550                       | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 221            | 221                     | 300                  | 134.5                       | 140                      | HIDROSTATICA   | 210                      | 8002                    | 0        |
| 3/4"                       | HL     | 55158                                                                             | CA40                       | B                                                                         | -                           | P-540 A (SKID #540)     | 3/4"-DR-55060-CB10-B        | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 135            | 125                     | 175                  | 197.5                       | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2        |
| 3/4"                       | HL     | 55159                                                                             | CA40                       | B                                                                         | -                           | P-540 B (SKID #540)     | 3/4"-DR-55060-CB10-B        | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61               | 54             | 135            | 125                     | 175                  | 197.5                       | 235                      | HIDROSTATICA   | 352.5                    | 8002                    | 2        |
| 6"                         | HO     | 20030                                                                             | CA15H                      | H                                                                         | 2 1/2                       | 4"-HO-20002-CA15H-H2    | PSV-52033                   | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 43.44               | 53.6           | 520            | 520                     | 550                  | 36                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 6"                         | HO     | 20031                                                                             | CA15H                      | H                                                                         | 2 1/2                       | 4"-HO-20002-CA15H-H2    | PSV-52034                   | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 43.44               | 53.6           | 520            | 520                     | 550                  | 36                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 2"                         | HO     | 20032                                                                             | CA15H                      | H                                                                         | 2                           | 4"-HO-20002-CA15H-H2    | 8"-FL-20212-CA20-B          | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 43.44               | 53.6           | 520            | 520                     | 550                  | 36                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 1        |
| 2"                         | HO     | 50455                                                                             | CA15H                      | H                                                                         | 2                           | 4"-HO-20003-CA15H-H2    | 2"-FL-50452-CA20-B          | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 43.44               | 53.6           | 520            | 520                     | 550                  | 36                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 4"                         | HO     | 50456                                                                             | CA15H                      | H                                                                         | 2 1/2                       | 4"-HO-20003-CA15H-H2    | PSV-54022                   | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 43.44               | 53.6           | 520            | 520                     | 550                  | 36                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 4"                         | HO     | 50457                                                                             | CA15H                      | H                                                                         | 2 1/2                       | 4"-HO-20003-CA15H-H2    | PSV-54021                   | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 43.44               | 53.6           | 520            | 520                     | 550                  | 36                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 4"                         | HO     | 52015                                                                             | CA15H                      | H                                                                         | 1 1/2                       | E-520 (SKID #523)       | COLECTOR DE ACEITE TERMICO  | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 49.56               | 53.6           | 282            | 282                     | 312                  | 30                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 2"                         | HO     | 52016                                                                             | CA15H                      | P                                                                         | 1                           | 4"-HO-52015-CA15H-P1    | V-022                       | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 49.56               | 53.6           | 282            | 282                     | 312                  | 30                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 1        |
| 4"                         | HO     | 54028                                                                             | CA15H                      | H                                                                         | 2                           | E-540 (SKID #541)       | 6"-HO-50109-CA15H-H11/2     | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 47.11               | 53.6           | 380            | 380                     | 410                  | 12                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 2        |
| 2"                         | HO     | 54029                                                                             | CA15H                      | P                                                                         | 1                           | 4"-HO-52028-CA15H-H11/2 | V-022                       | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 47.11               | 53.6           | 380            | 380                     | 410                  | 12                          | 150                      | HIDROSTATICA   | 225                      | 9006                    | 1        |
| 2"                         | HO     | 55019                                                                             | CA15H                      | H                                                                         | 1                           | E-550                   | 6"-HO-50109-CA15H-H11/2     | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 47.38               | 53.6           | 370            | 370                     | 400                  | 34.5                        | 150                      | HIDROSTATICA   | 225                      | 9006                    | 1        |
| 2"                         | HQ     | 55020                                                                             | CA15H                      | P                                                                         | 1                           | 2"-HO-55019-CA15H-H1    | V-022                       | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 47.38               | 53.6           | 370            | 370                     | 400                  | 34.5                        | 150                      | HIDROSTATICA   | 225                      | 9006                    | 1        |

|                            |        |                                                                                              |                            |                                                                           |                             |                       |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|-----------------------|-------------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                       |                               |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 16 de 21        |          |
|                            |        |                                                                                              |                            |                                                                           |                             |                       |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                              |                            |                                                                           |                             |                       |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                              |                            |                                                                           |                             |                       |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                    |                            |                                                                           |                             |                       |                               |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                              |                            | LISTA DE LÍNEAS                                                           |                             |                       |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                 | Hasta                         | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 3/4"                       | OD     | 01003                                                                                        | CB10                       | B                                                                         | -                           | 1"-HL-01004-CA40-B    | 2"-OD-01220-CB10-B            | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 01006                                                                                        | CB10                       | B                                                                         | -                           | 1"-DR-01007-CB10-B    | 2"-OD-01220-CB10-B            | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 01048                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-01220-CB10-B    | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 01220                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL               | 4"-OD-01048-CB10-B            | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 01257                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-83026-CB10-B    | 4"-OD-01256-CB10-B            | 3285-A100-632-2042-DW-020 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 4"                         | OD     | 01291                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-82030-CB10-B    | 2"-OD-01294-CB10-B            | 3285-A100-632-2042-DW-020 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 1/2"                       | OD     | 01800                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-01014-CA40-B    | 2"-OD-01220-CB10-B            | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 01804                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-01015-CA20-B    | 2"-OD-01220-CB10-B            | 3285-A100-632-2042-DW-022 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 03041                                                                                        | CB10                       | B                                                                         | -                           | F-030A                | 2"-OD-01220-CB10-B            | 3285-A100-632-2042-DW-021 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 2"                         | OD     | 03042                                                                                        | CB10                       | B                                                                         | -                           | F-030B                | 2"-OD-01220-CB10-B            | 3285-A100-632-2042-DW-021 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 50047                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-50045-SC80-H1   | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 50077                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50075-CA100-B   | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50080                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50076-CA100-B   | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 50121                                                                                        | CB10                       | B                                                                         | -                           | SKID #502             | 4"-OD-50419-CB10-B            | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 4"                         | OD     | 50126                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-50420-CB10-B    | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50416                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-54052-CA40-H1   | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 4"                         | OD     | 50419                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-50121-CB10-B    | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 50420                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL               | 4"-OD-50126-CB10-B            | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50424                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50423-CA20-B    | 2"-OD-55064-CB10-B            | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 39.23              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50433                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-50431-CA100H-H2 | 2"-OD-50441-CB10-B            | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50436                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-50434-CA100H-H2 | 2"-OD-50441-CB10-B            | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50439                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-50437-CA100H-H2 | 2"-OD-50441-CB10-B            | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 50441                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL               | 4"-OD-50442-CB10-B            | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 50442                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-50441-CB10-B    | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-003 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 50450                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL               | 4"-OD-50451-CB10-B            | 3285-A100-632-2042-DW-026 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 50451                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-50450-CB10-B    | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-026 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50470                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HL-50468-CA100-B | DRENAJE OD3                   | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 2"                         | OD     | 50471                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL               | 4"-OD-50472-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 50472                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-50471-CB10-B    | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50483                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50474-CA100-B   | 2"-OD-50487-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 50484                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50475-CA100-B   | 2"-OD-50487-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 50485                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50476-CA100-B   | 2"-OD-50487-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 50486                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-50477-CA100-B   | 2"-OD-50487-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |

|                            |        |                                                                                                           |                            |                                                                                             |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|-----------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------|-----------------------------|------------------------|-------------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del petróleo en el futuro</div></div></div> |                            | PROYECTO:<br><br><div>OBM 3285</div> <div>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE</div> |                             |                        |                               |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 17 de 21        |          |
|                            |        |                                                                                                           |                            |                                                                                             |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                                           |                            |                                                                                             |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                                           |                            |                                                                                             |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                                 |                            |                                                                                             |                             |                        |                               |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                                           |                            | LISTA DE LÍNEAS                                                                             |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                                           | Especificación de Material | Tipo de aislamiento                                                                         | Espesor de aislamiento (in) | Desde                  | Hasta                         | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | OD     | 50487                                                                                                     | CB10                       | B                                                                                           | -                           | CABEZAL                | 4"-OD-50488-CB10-B            | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 4"                         | OD     | 50488                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-OD-50487-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 27.25              | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 1/2"                       | OD     | 50800                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-HG-50129-CA100-B    | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 50801                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50105              | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50802                                                                                                     | CB10                       | B                                                                                           | -                           | LG-50010               | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50803                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50105              | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50804                                                                                                     | CB10                       | B                                                                                           | -                           | F-501                  | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50805                                                                                                     | CB10                       | B                                                                                           | -                           | F-501                  | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50806                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-HG-50131-CA100-B    | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 50807                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50013              | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50808                                                                                                     | CB10                       | B                                                                                           | -                           | LG-50012               | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50809                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50011              | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50810                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50009              | 2"-OD-50420-CB10-B            | 3285-A100-632-2042-DW-002 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50811                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50062              | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50812                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50062              | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50813                                                                                                     | CB10                       | B                                                                                           | -                           | LG-50068               | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50814                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50069              | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 50815                                                                                                     | CB10                       | B                                                                                           | -                           | LIT-50069              | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 2"                         | OD     | 50816                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-HL-50123-SC80-H1    | 2"-OD-50121-CB10-B            | 3285-A100-632-2042-DW-004 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 50819                                                                                                     | CB10                       | B                                                                                           | -                           | 6"-HG-50011-CA100-B    | DRENAJE OD5                   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50820                                                                                                     | CB10                       | B                                                                                           | -                           | K-501 A                | DRENAJE OD1                   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50821                                                                                                     | CB10                       | B                                                                                           | -                           | 6"-HG-50013-CA100-B    | DRENAJE OD3                   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50822                                                                                                     | CB10                       | B                                                                                           | -                           | 6"-HG-50012-CA100-B    | DRENAJE OD4                   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50823                                                                                                     | CB10                       | B                                                                                           | -                           | 6"-HG-50014-CA100-B    | DRENAJE OD6                   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 50824                                                                                                     | CB10                       | B                                                                                           | -                           | K-501 B                | DRENAJE OD2                   | 3285-A100-632-2042-DW-005 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 51059                                                                                                     | CB10                       | B                                                                                           | -                           | P-510 A                | 2"-OD-52070-CB10-B            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 51060                                                                                                     | CB10                       | B                                                                                           | -                           | P-510 B                | 2"-OD-52070-CB10-B            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 51063                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-OD-51096-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-019 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 51072                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-HL-51073-SC80C-C4   | 2"-OD-51140-CB10-B            | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 51075                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-HL-51074-CA40-B     | 2"-OD-51140-CB10-B            | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 51078                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-HL-51077-SC80C-C3   | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 51080                                                                                                     | CB10                       | B                                                                                           | -                           | CABEZAL DE RECOLECCIÓN | 2"-OD-51140-CB10-B            | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 51082                                                                                                     | CB10                       | B                                                                                           | -                           | 2"-OD-51140-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |

|                            |        |                                                                                              |                            |                                                                           |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|-------------------------|-------------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                         |                               |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 18 de 21        |          |
|                            |        |                                                                                              |                            |                                                                           |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                              |                            |                                                                           |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                              |                            |                                                                           |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                    |                            |                                                                           |                             |                         |                               |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                              |                            | LISTA DE LÍNEAS                                                           |                             |                         |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                   | Hasta                         | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | OD     | 51096                                                                                        | CB10                       | B                                                                         | -                           | TG-511/K-511            | 4"-OD-51063-CB10-B            | 3285-A100-632-2042-DW-019 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 51122                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-51120-SC40C-C3    | 2"-OD-52070-CB10-B            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 51140                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL DE DRENAJES     | 4"-OD-51082-CB10-B            | 3285-A100-632-2042-DW-009 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 51141                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                 | 4"-OD-51063-CB10-B            | 3285-A100-632-2042-DW-019 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 1                       |          |
| 2"                         | OD     | 51164                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                 | 4"-OD-51165-CB10-B            | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 51165                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-51164-CB10-B      | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-019 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 51168                                                                                        | CB10                       | B                                                                         | -                           | 11/2"-HL-51166-SC40C-C3 | 2"-OD-51164-CB10-B            | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 51169                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HL-51168-SC40C-C3  | 3/4"-OD-51059-CB10-B          | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 51172                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HL-51171-SC40C-C3  | 3/4"-OD-51060-CB10-B          | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 2"                         | OD     | 51176                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                 | 2"-OD-52070-CB10-B            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 51178                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HG-50135-SC80C-C4  | 2"-OD-51164-CB10-B            | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 51180                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HG-51179-SC40C-C4  | 2"-OD-51164-CB10-B            | 3285-A100-632-2042-DW-006 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 1/2"                       | OD     | 51800                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-51054-SC80C-C3    | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 1/2"                       | OD     | 51801                                                                                        | CB10                       | B                                                                         | -                           | LIT-51040               | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51802                                                                                        | CB10                       | B                                                                         | -                           | LIT-51040               | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51803                                                                                        | CB10                       | B                                                                         | -                           | LG-51039                | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 51804                                                                                        | CB10                       | B                                                                         | -                           | LIT-51031               | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51805                                                                                        | CB10                       | B                                                                         | -                           | LIT-51031               | 2"-OD-51080-CB10-B            | 3285-A100-632-2042-DW-007 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51806                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-51058-SC40C-C3    | 2"-OD-51176-CB10-B            | 3285-A100-632-2042-DW-013 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 2        |
| 1/2"                       | OD     | 51807                                                                                        | CB10                       | B                                                                         | -                           | LG-51079                | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-013 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51808                                                                                        | CB10                       | B                                                                         | -                           | LIT-51080               | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-013 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51809                                                                                        | CB10                       | B                                                                         | -                           | LIT-51080               | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-013 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51810                                                                                        | CB10                       | B                                                                         | -                           | LIT-51070               | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-013 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 51811                                                                                        | CB10                       | B                                                                         | -                           | LIT-51070               | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-013 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 3/4"                       | OD     | 52040                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-52038-CA40-P1     | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 4"                         | OD     | 52043                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-52071-CB10-B      | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 52049                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-52046-CA40-P1     | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 52052                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-52050-CA40-P1     | 2"-OD-52071-CB10-B            | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 4"                         | OD     | 52060                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-52070-CB10-B      | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 52064                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-51062-SC40C-C3    | 2"-OD-52072-CB10-B            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 52066                                                                                        | CB10                       | B                                                                         | -                           | P-520 A                 | 2"-OD-52070-CB10-B            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 52067                                                                                        | CB10                       | B                                                                         | -                           | P-520 B                 | 2"-OD-52070-CB10-B            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 52070                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL DE DRENAJES     | 4"-OD-52060-CB10-B            | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |

|                            |        |                                                                                              |                            |                                                                           |                             |                        |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|------------------------|----------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|----------|
| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>la fuerza del progreso</div></div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                        |                      |                           |                 |                    |                |                |                         |                      | Fecha                       | Realizó                  | Revisó         | Aprobó                   | Página: 19 de 21        |          |
|                            |        |                                                                                              |                            |                                                                           |                             |                        |                      |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | Versión                 | Revisión |
|                            |        |                                                                                              |                            |                                                                           |                             |                        |                      |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    | 2                       | 2        |
|                            |        |                                                                                              |                            |                                                                           |                             |                        |                      |                           |                 |                    |                |                |                         |                      |                             | PP                       | ER             | LR/RG                    |                         |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                    |                            |                                                                           |                             |                        |                      |                           |                 |                    |                |                |                         |                      | NOTAS                       |                          |                |                          |                         |          |
|                            |        |                                                                                              |                            | LISTA DE LÍNEAS                                                           |                             |                        |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |          |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                  | Hasta                | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión |
| 2"                         | OD     | 52071                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-52043-CB10-B   | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 2"                         | OD     | 52072                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 2"-OD-52070-CB10-B   | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 52086                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HL-52084-SC40C-C3 | 3/4"-OD-52066-CB10-B | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 52089                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HL-52087-SC40C-C3 | 3/4"-OD-52067-CB10-B | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 52094                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HG-52092-SC40C-C3 | 3/4"-OD-52099-CB10-B | 3285-A100-632-2042-DW-011 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 2        |
| 3/4"                       | OD     | 52097                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HG-52095-SC40C-C3 | 3/4"-OD-52094-CB10-B | 3285-A100-632-2042-DW-011 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 2        |
| 3/4"                       | OD     | 52099                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-HG-52098-SC40C-C4 | 2"-OD-52070-CB10-B   | 3285-A100-632-2042-DW-011 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 1/2"                       | OD     | 52800                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-52045-CA40-H1    | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 52801                                                                                        | CB10                       | B                                                                         | -                           | LG-52013               | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52802                                                                                        | CB10                       | B                                                                         | -                           | LIT-52014              | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52803                                                                                        | CB10                       | B                                                                         | -                           | LIT-52014              | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52804                                                                                        | CB10                       | B                                                                         | -                           | LIT-52004              | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52805                                                                                        | CB10                       | B                                                                         | -                           | LIT-52004              | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52807                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-52061-SC40C-C3   | 2"-OD-52072-CB10-B   | 3285-A100-632-2042-DW-012 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 52808                                                                                        | CB10                       | B                                                                         | -                           | LG-52055               | 2"-OD-52072-CB10-B   | 3285-A100-632-2042-DW-012 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52809                                                                                        | CB10                       | B                                                                         | -                           | LIT-52056              | 2"-OD-52072-CB10-B   | 3285-A100-632-2042-DW-012 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52810                                                                                        | CB10                       | B                                                                         | -                           | LIT-52056              | 2"-OD-52072-CB10-B   | 3285-A100-632-2042-DW-012 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52811                                                                                        | CB10                       | B                                                                         | -                           | LIT-52050              | 2"-OD-52072-CB10-B   | 3285-A100-632-2042-DW-012 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52812                                                                                        | CB10                       | B                                                                         | -                           | LIT-52050              | 2"-OD-52072-CB10-B   | 3285-A100-632-2042-DW-012 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 52813                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-52090-CA40-H11/2 | 2"-OD-52071-CB10-B   | 3285-A100-632-2042-DW-010 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |
| 3/4"                       | OD     | 54040                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-54039-CA40-B     | 2"-OD-55063-CB10-B   | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 54053                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-54047-CA40-H1    | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 54056                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-54048-CA40-H1    | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 54058                                                                                        | CB10                       | B                                                                         | -                           | P-540 A (SKID #540)    | 2"-OD-55063-CB10-B   | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 3/4"                       | OD     | 54059                                                                                        | CB10                       | B                                                                         | -                           | P-540 B (SKID #540)    | 2"-OD-55063-CB10-B   | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 54800                                                                                        | CB10                       | B                                                                         | -                           | LG-54063               | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 54801                                                                                        | CB10                       | B                                                                         | -                           | LIT-54029              | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 54802                                                                                        | CB10                       | B                                                                         | -                           | LIT-54029              | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 54803                                                                                        | CB10                       | B                                                                         | -                           | LG-54029               | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 54804                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-54046-CA40-H1    | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0        |
| 1/2"                       | OD     | 54805                                                                                        | CB10                       | B                                                                         | -                           | LIT-54028              | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 54806                                                                                        | CB10                       | B                                                                         | -                           | LIT-54028              | 2"-OD-55065-CB10-B   | 3285-A100-632-2042-DW-014 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |          |
| 1/2"                       | OD     | 54807                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-54057-CA40-B     | 2"-OD-55063-CB10-B   | 3285-A100-632-2042-DW-015 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1        |

| <div><div>AESA</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div></div> |                            | PROYECTO: <div>OBM 3285</div> PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             | Fecha                    | Realizó        | Revisó                   | Aprobó                  | Página: 20 de 21 |          |
|----------------------------|--------|----------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------|-----------------------------|------------------------|-------------------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|------------------|----------|
|                            |        |                                                                                              |                            |                                                                           |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | Versión          | Revisión |
|                            |        |                                                                                              |                            |                                                                           |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | 2                | 2        |
|                            |        |                                                                                              |                            |                                                                           |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   |                  |          |
| DOCUMENTO AESA N°          |        | 3285-A100-632-2045-LL-100                                                                    |                            |                                                                           |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             | NOTAS                    |                |                          |                         |                  |          |
|                            |        |                                                                                              |                            | LISTA DE LÍNEAS                                                           |                             |                        |                               |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |                  |          |
| Diámetros (in)             | Fluido | Número de línea                                                                              | Especificación de Material | Tipo de aislamiento                                                       | Espesor de aislamiento (in) | Desde                  | Hasta                         | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión         |          |
| 1/2"                       | OD     | 54808                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-54068-CA40-H11/2 | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1                |          |
| 3/4"                       | OD     | 55023                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-55024-CA20-H1    | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 3/4"                       | OD     | 55026                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-55025-CA20-H1    | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 3/4"                       | OD     | 55029                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-55030-CA20-H1    | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 4"                         | OD     | 55031                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-55065-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 3/4"                       | OD     | 55033                                                                                        | CB10                       | B                                                                         | -                           | P-550A                 | 2"-OD-55063-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1                |          |
| 3/4"                       | OD     | 55034                                                                                        | CB10                       | B                                                                         | -                           | P-550B                 | 2"-OD-55063-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1                |          |
| 3/4"                       | OD     | 55040                                                                                        | CB10                       | B                                                                         | -                           | 2"-DR-55038-CA20-P1    | 2"-OD-55063-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 4"                         | OD     | 55047                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-55063-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 4"                         | OD     | 55060                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-55064-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 2"                         | OD     | 55063                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-55047-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1                |          |
| 2"                         | OD     | 55063                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-55047-CB10-B            | 3285-A100-632-2042-DW-015 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | B                       |                  |          |
| 2"                         | OD     | 55064                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-55060-CB10-B            | 3285-A100-632-2042-DW-001 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 2"                         | OD     | 55065                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-55031-CB10-B            | 3285-A100-632-2042-DW-014 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 1/2"                       | OD     | 55800                                                                                        | CB10                       | B                                                                         | -                           | LG-55024               | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |                  |          |
| 1/2"                       | OD     | 55801                                                                                        | CB10                       | B                                                                         | -                           | LIT-55023              | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |                  |          |
| 1/2"                       | OD     | 55802                                                                                        | CB10                       | B                                                                         | -                           | LIT-55023              | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |                  |          |
| 1/2"                       | OD     | 55803                                                                                        | CB10                       | B                                                                         | -                           | LG-55023               | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |                  |          |
| 1/2"                       | OD     | 55804                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-55056-CA20-H1    | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 1/2"                       | OD     | 55805                                                                                        | CB10                       | B                                                                         | -                           | LIT-55022              | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |                  |          |
| 1/2"                       | OD     | 55806                                                                                        | CB10                       | B                                                                         | -                           | LIT-55022              | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 0                       |                  |          |
| 1/2"                       | OD     | 55807                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-55051-CA20-P1    | 2"-OD-55816-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 32.61              | 54             | 221            | 221                     | 260                  | 96                          | 140                      | ----           | -                        | 8001                    | 1                |          |
| 1/2"                       | OD     | 55808                                                                                        | CB10                       | B                                                                         | -                           | 2"-HL-55066-CA20-H1    | 2"-OD-55065-CB10-B            | 3285-A100-632-2042-DW-016 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1                |          |
| 2"                         | OD     | 55816                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 2"-OD-55063-CB10-B            | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 3/4"                       | OD     | 55817                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-OD-55058-CB10-B   | 3/4"-HL-55158-CA20-P1         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 2                |          |
| 3/4"                       | OD     | 55818                                                                                        | CB10                       | B                                                                         | -                           | 3/4"-OD-55033-CB10-B   | 3/4"-HL-55158-CA20-P1         | 3285-A100-632-2042-DW-017 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 2                |          |
| 4"                         | OD     | 82031                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-82030-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-020 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 1                       |                  |          |
| 2"                         | OD     | 83025                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-83029-CB10-B            | 3285-A100-632-2042-DW-020 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 2"                         | OD     | 83026                                                                                        | CB10                       | B                                                                         | -                           | CABEZAL                | 4"-OD-01257-CB10-B            | 3285-A100-632-2042-DW-020 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 1                |          |
| 4"                         | OD     | 83027                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-83026-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-020 | ELIMINADA       |                    |                |                |                         |                      |                             |                          |                |                          | 1                       |                  |          |
| 4"                         | OD     | 83029                                                                                        | CB10                       | B                                                                         | -                           | 2"-OD-83025-CB10-B     | COLECTOR DE DRENAJES ABIERTOS | 3285-A100-632-2042-DW-020 | LÍQUIDO         | 62.1               | 54             | 130            | 91                      | 160                  | 0                           | 50                       | ----           | -                        | 8001                    | 0                |          |
| 3/4"                       | VG     | 51166                                                                                        | SC40C                      | C                                                                         | 3                           | 3"-HL-51162-SC40C-C3   | VENTEO A ZONA SEGURA          | 3285-A100-632-2042-DW-013 | GAS             | 2.535              | -115           | -94            | -94                     | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 1023 Y 2009             | 2                |          |
| 3/4"                       | VG     | 51167                                                                                        | SC40C                      | C                                                                         | 3                           | 3"-HL-51163-SC40C-C3   | VENTEO A ZONA SEGURA          | 3285-A100-632-2042-DW-013 | GAS             | 2.535              | -115           | -94            | -94                     | 104                  | 410                         | 455                      | HIDROSTATICA   | 682.5                    | 1023 Y 2009             | 2                |          |

|                                                        |        |                                                                                                                                  |                            |                                                                                                 |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          |                |                          |                         |                  |          |
|--------------------------------------------------------|--------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------|-----------------------------|----------------------|----------------------|---------------------------|-----------------|--------------------|----------------|----------------|-------------------------|----------------------|-----------------------------|--------------------------|----------------|--------------------------|-------------------------|------------------|----------|
| <div><div>AESA</div><div>DOCUMENTO AESA N°</div></div> |        | <div><div><div>YPFB</div><div>Corporación</div><div>La fuerza del progreso</div></div><div>3285-A100-632-2045-LL-100</div></div> |                            | <div>PROYECTO:</div> <div>OBM 3285</div> <div>PLANTA DE SEPARACIÓN DE LÍQUIDOS RÍO GRANDE</div> |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             | Fecha                    | Realizó        | Revisó                   | Aprobó                  | Página: 21 de 21 |          |
|                                                        |        |                                                                                                                                  |                            |                                                                                                 |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | Versión          | Revisión |
|                                                        |        |                                                                                                                                  |                            |                                                                                                 |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   | 2                | 2        |
|                                                        |        |                                                                                                                                  |                            |                                                                                                 |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             |                          | PP             | ER                       | LR/RG                   |                  |          |
|                                                        |        |                                                                                                                                  |                            | LISTA DE LÍNEAS                                                                                 |                             |                      |                      |                           |                 |                    |                |                |                         |                      |                             | NOTAS                    |                |                          |                         |                  |          |
| Diámetros (in)                                         | Fluido | Número de línea                                                                                                                  | Especificación de Material | Tipo de aislamiento                                                                             | Espesor de aislamiento (in) | Desde                | Hasta                | Número de P&ID            | Fase del fluido | Densidad (lb/pie3) | Temp. Min (°F) | Temp. Max (°F) | Temp. de Operación (°F) | Temp. de Diseño (°F) | Presión de Operación (psig) | Presión de Diseño (psig) | Tipo de Prueba | Presión de Prueba (psig) | Código de Pintura (RAL) | Revisión         |          |
| 3/4"                                                   | VG     | 52082                                                                                                                            | SC40C                      | C                                                                                               | 3                           | 3"-HL-52080-SC40C-C3 | VENTEO A ZONA SEGURA | 3285-A100-632-2042-DW-012 | GAS             | 2.774              | -60            | -32.3          | -32.3                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 1023 Y 2009             | 2                |          |
| 3/4"                                                   | VG     | 52083                                                                                                                            | SC40C                      | C                                                                                               | 3                           | 3"-HL-52081-SC40C-C3 | VENTEO A ZONA SEGURA | 3285-A100-632-2042-DW-012 | GAS             | 2.774              | -60            | -32.3          | -32.3                   | 104                  | 424                         | 480                      | HIDROSTATICA   | 720                      | 1023 Y 2009             | 2                |          |