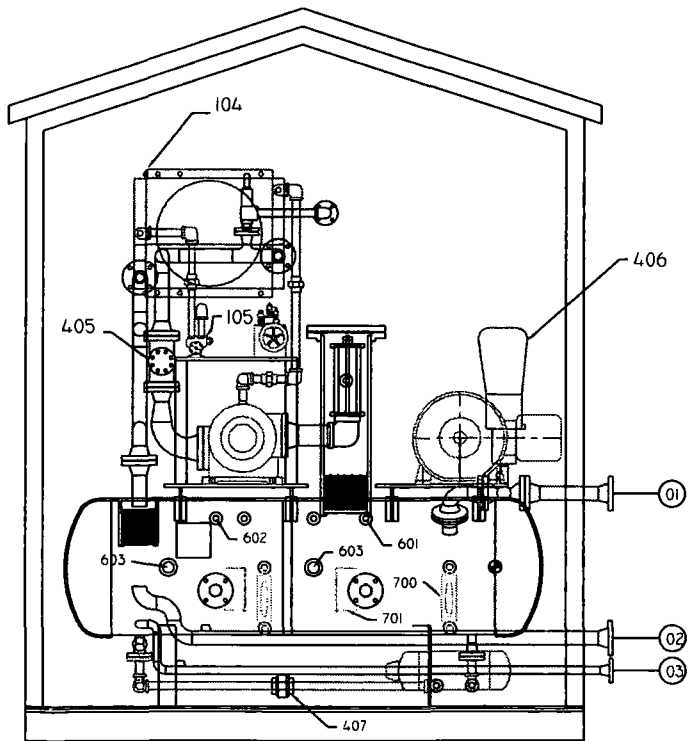
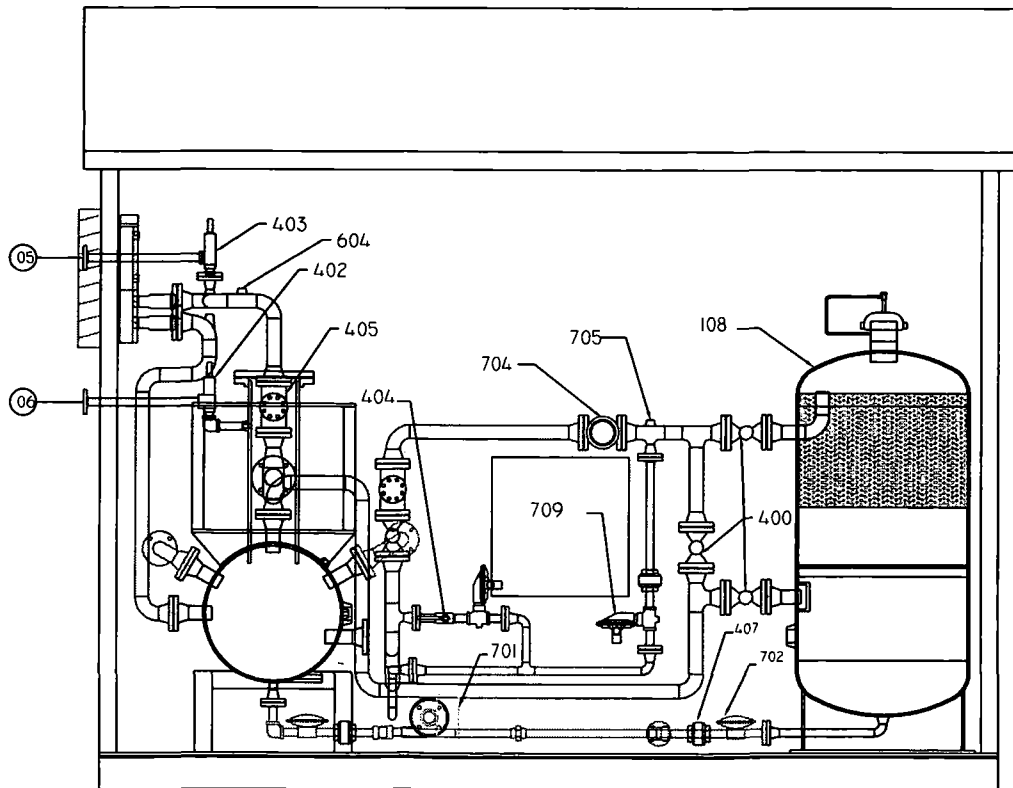
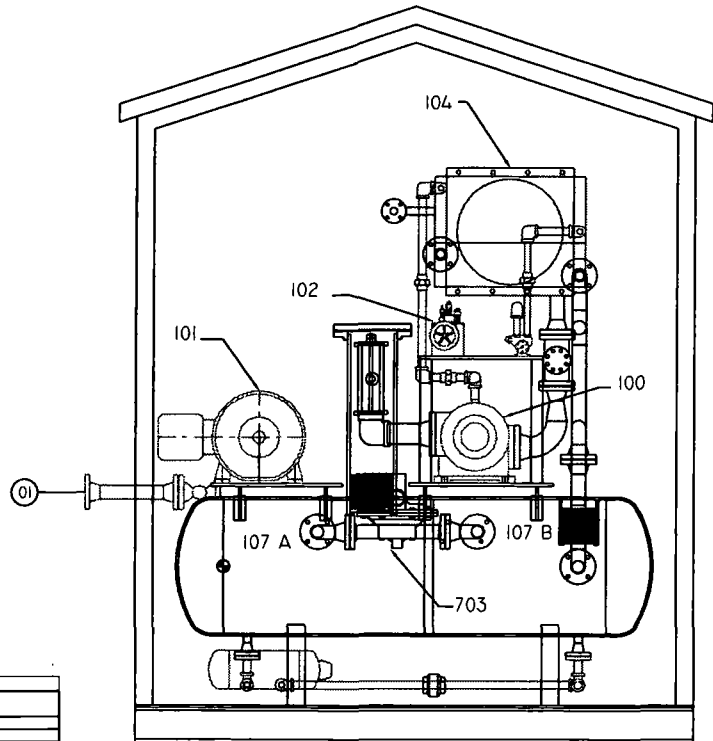
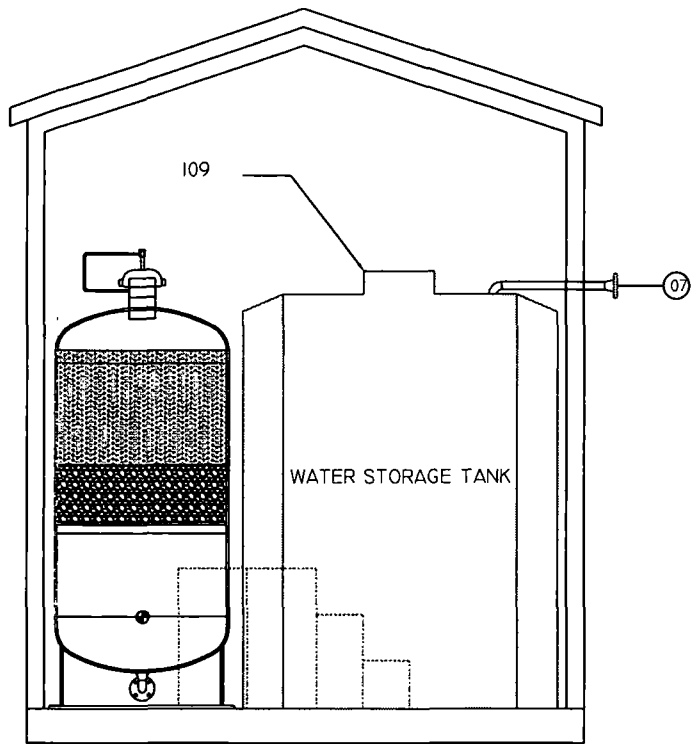
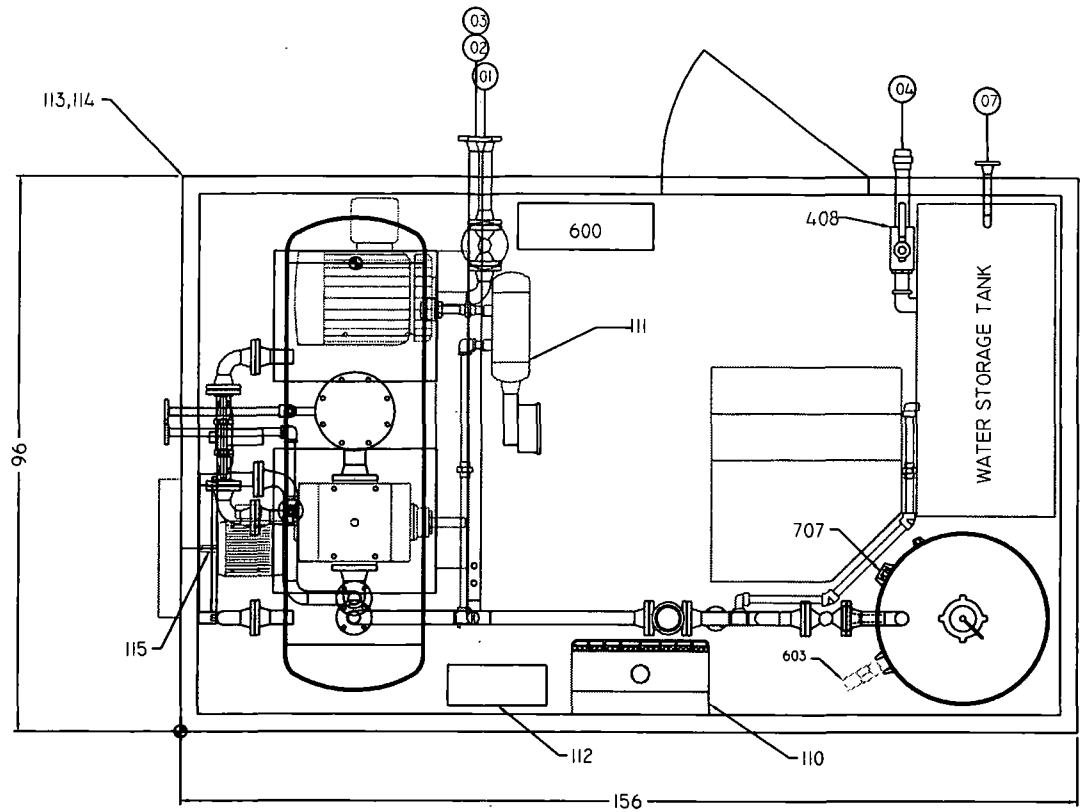


10

| ITEM  |   | QTY.                                                                                                                              |  | DESCRIPTION |  |
|-------|---|-----------------------------------------------------------------------------------------------------------------------------------|--|-------------|--|
| 100   | 1 | A.C. COMPRESSOR MODEL 7DB RO-FLO SLIDING VANE                                                                                     |  |             |  |
| 101   | 1 | 4.0 HP, 1800 RPM, 480/3/60 VOLT XP ELECTRIC MOTOR                                                                                 |  |             |  |
| 102   | 1 | TRABON LUBRICATION SYSTEM C/W LUBE BOX, MANIFOLD BLOCK, PSI GAUGE, DIVIDER BLOCK, AND RUPTURE ASSEMBLY.                           |  |             |  |
| 103   | 1 | 5 GALLON DAY TANK                                                                                                                 |  |             |  |
| 104   | 1 | 2 SECTION GAS/GYL COOL COOLER                                                                                                     |  |             |  |
| 105   | 1 | GX115 VIKING GEAR CIRCULATING PUMP                                                                                                |  |             |  |
| 106   | 1 | THERMOSTAT VALVE                                                                                                                  |  |             |  |
| 07A/B | 1 | TWO SECTION GAS SEPERATOR - INLET AND OUTLET C/W DEMISTER PAD AND REQUIRED CONNECTIONS. INLET SEPERATOR COMES WITH FILTER ELEMENT |  |             |  |
| 108   | 1 | MODEL DD20X60 DESSICANT DRYER                                                                                                     |  |             |  |
| 109   | 1 | WATER STORAGE TANK                                                                                                                |  |             |  |
| 110   | 1 | CISCAN 24X30 (30,000 BTU) 120 VOLT START NATURAL GAS CATALYTIC HEATER                                                             |  |             |  |
| 111   | 1 | BLOW CASE                                                                                                                         |  |             |  |
| 112   | 1 | LINC MODEL 87-II-21 METHONAL INJECTION PUMP C/W GAS DRIVER                                                                        |  |             |  |
| 113   | 1 | HEAVY DUTY OILFIELD SKID C/W WIDE FLANGE CONSTRUCTION                                                                             |  |             |  |
| 114   | 1 | 8' X12'X8' STEEL SELF FRAMING GABLE STYLE BUILDING                                                                                |  |             |  |
| 115   | 1 | 3HP 3600RPM 460/3/60 VOLT XP ELECTRIC MOTOR                                                                                       |  |             |  |
| 400   | 5 | 2"-150# RF RP NACE TRIM BALL VALVE                                                                                                |  |             |  |
| 401   | 0 | 1"-150# RF RP NACE TRIM BALL VALVE                                                                                                |  |             |  |
| 402   | 1 | TAYLOR MODEL 8200 - 1" RELIEF VALVE SET AT 14 PSI                                                                                 |  |             |  |
| 403   | 1 | TAYLOR MODEL 8200 - 1" RELIEF VALVE SET AT 80 PSI                                                                                 |  |             |  |
| 404   | 3 | 1"-2000# THD NACE TRIM BALL VALVES                                                                                                |  |             |  |
| 405   | 2 | 2"-150# RF NACE TRIM CHECK VALVES                                                                                                 |  |             |  |
| 406   | 1 | 2"-150# RF RP NACE TRIM BALL VALVE C/W ELECTRIC ACTUATOR                                                                          |  |             |  |
| 407   | 5 | 1"-2000# THD NACE TRIM CHECK VALVES                                                                                               |  |             |  |
| 408   | 1 | 2"-2000# THD NACE TRIM BALL VALVE                                                                                                 |  |             |  |
| 600   | 1 | MURPHY LCDT-NC INTRINSICALLY SAFE, ALARM AND SHUTDOWN PANEL                                                                       |  |             |  |
| 601   | 1 | LOW SUCTION PRESSURE - SHUTDOWN                                                                                                   |  |             |  |
| 602   | 2 | HIGH DISCHARGE PRESSURE - SHUTDOWN                                                                                                |  |             |  |
| 603   | 3 | MURPHY L-1200 LEVEL - SHUTDOWN                                                                                                    |  |             |  |
| 604   | 1 | HIGH TEMPERATURE - SHUTDOWN                                                                                                       |  |             |  |
| 605   | 1 | LUBRICATOR NO FLOW - SHUTDOWN                                                                                                     |  |             |  |
| 700   | 3 | LIQUID LEVEL SIGHT GLASS                                                                                                          |  |             |  |
| 701   | 4 | NORRISSEAL MODEL 1001A PNEUMATIC OPERATED LEVEL CONTROLLER                                                                        |  |             |  |
| 702   | 3 | NORRISSEAL PNEUMATIC DUMP VALVE - SERIES #2275                                                                                    |  |             |  |
| 703   | 1 | FISHER MODEL S-220H REGULATOR                                                                                                     |  |             |  |
| 704   | 1 | GAS FLOW METER AND TOTALIZER                                                                                                      |  |             |  |
| 705   | 1 | KIMRAY TEMPERATURE CONTROLLER                                                                                                     |  |             |  |
| 706   | 1 | GARZO MOTOR FOR LOUVER CONTROL                                                                                                    |  |             |  |
| 707   | 3 | 1" BULLS EYE SIGHT GLASS                                                                                                          |  |             |  |
| 708   | 1 | LUBRICATOR LEVEL CONTROLLER MODEL PL98                                                                                            |  |             |  |
| 709   | 2 | FISHER MODEL 627 1" NPT REGULATOR                                                                                                 |  |             |  |



| ITEM QTY. |    | WELD DATA |       | DESCRIPTION |                      |
|-----------|----|-----------|-------|-------------|----------------------|
| 01        | 01 | 80        | 2,000 | FLG         | 2"-150# RF SUCTION   |
| 02        | 01 | 80        | 2,000 | FLG         | 2"-150# RF DISCHARGE |
| 03        | 01 | 80        | 1,000 | FLG         | 1"-150# RF DISCHARGE |
| 04        | 01 | 80        | 2,000 | NPT         | 2" NPT DRAIN LINE    |
| 05        | 01 | 80        | 1,000 | FLG         | 1"-150# RF RELIEF    |
| 06        | 01 | 80        | 1,000 | FLG         | 1"-150# RF RELIEF    |
| 07        | 01 | 80        | 1,000 | FLG         | 1"-150# RF VENT      |

| REV | DATE     | REVISION DESCRIPTION | JC |
|-----|----------|----------------------|----|
| 1   | 05/27/02 | CONSTRUCTION PRINTS  | JC |
| 2   |          |                      |    |
| 3   |          |                      |    |
| 4   |          |                      |    |



TITLE

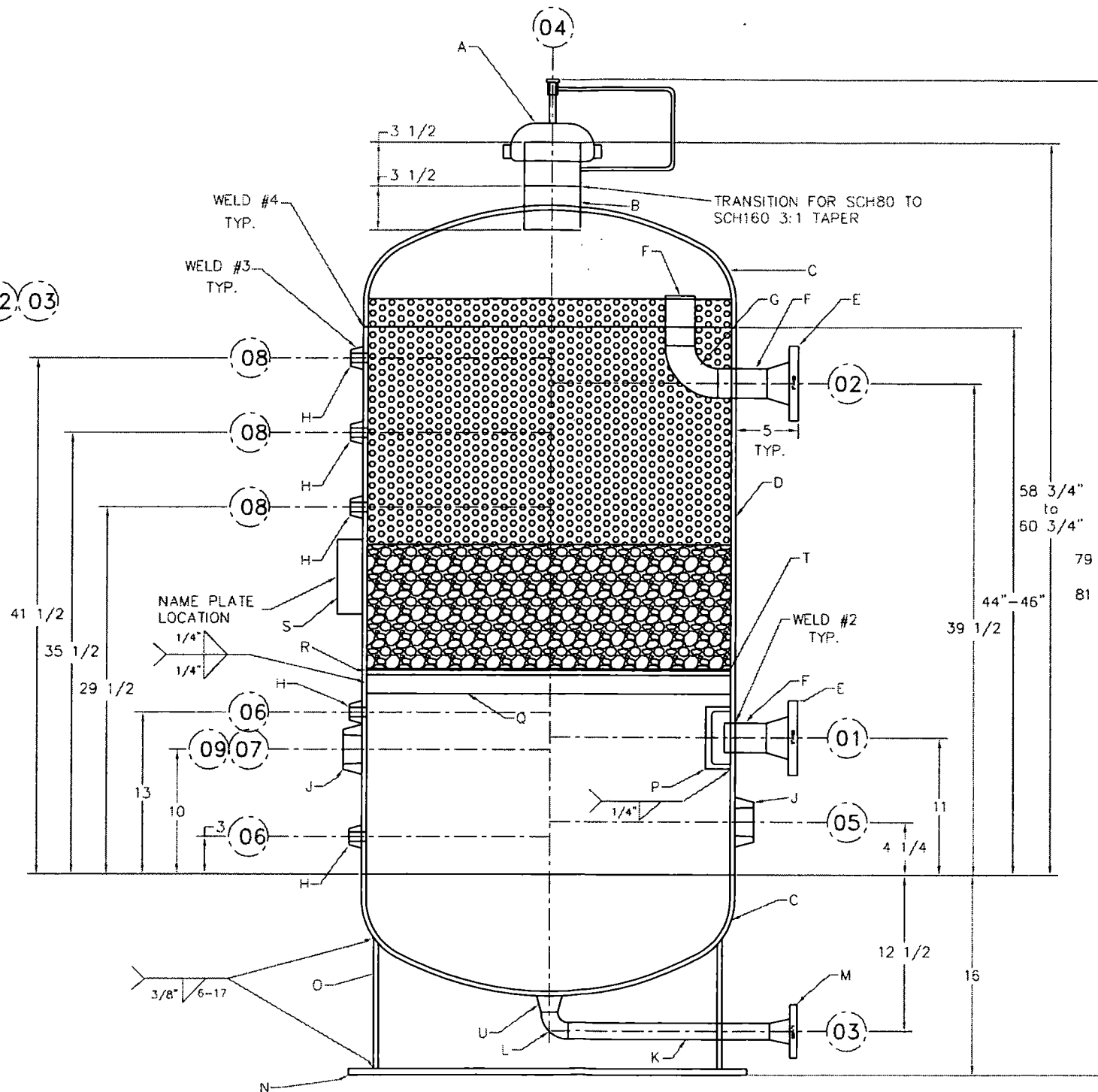
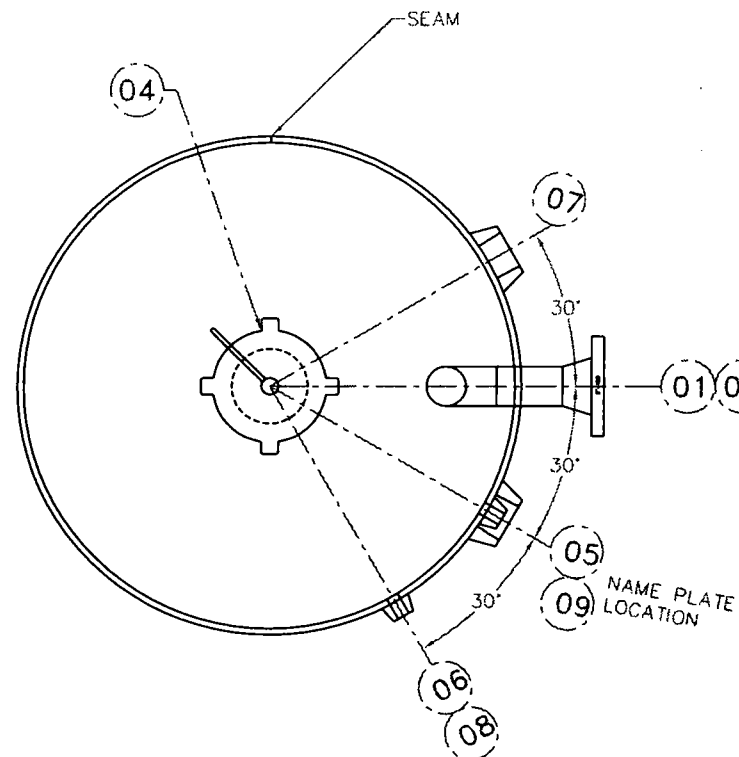
HUSKY ENERGY INC.  
CASING GAS COMPRESSOR  
PACKAGE

PROJECT  
7DB RO-FLO COMP.  
PLAN VIEW  
JOB #991-B

|                       |                                 |                         |                  |
|-----------------------|---------------------------------|-------------------------|------------------|
| DESIGNED<br>W.ZAHAYKO | DATE<br>02/21/02                | DRAWN<br>W.ZAHAYKO      | DATE<br>05/13/02 |
| APPROVED              | DATE                            | CHECKED<br>B. BLACKBURN | DATE             |
| SCALE<br>1/2" = 1'    | COMPUTER FILE #<br>991_PLAN.DWG | SHEET<br>1 OF 1         | REV<br>1         |
|                       | DRAWING CONTROL #<br>991-1-10   |                         |                  |

## NOTE:

1. ALL FITTINGS SHALL BE LOCATED AT THE SAME ELEVATION AROUND THE SHELL UNLESS OTHERWISE DIMENSIONED
2. FITTINGS MAY BE LOCATED AT ANY POINT AROUND PERIMETER OF SHELL (AT ELEVATION HEIGHT) WITH OPPOSING FITTINGS ROTATING EQUALLY.
3. ALL DIMENSIONS IN INCHES UNLESS OTHERWISE STATED
4. ALL MILD STEEL IS GRADE A36 OR 44W



## DESIGN NOTES:

1. TYPICAL BUTT WELDS PER UW-12 TYPE 1.
2. DESIGN TEMPERATURE 350°F, (182°C.)
3. FABRICATE TO A.S.M.E. CODE FOR PRESSURE VESSELS, SECTION 8, DIVISION 1, 2001 EDITION.
4. SHELL AND HEAD MATERIAL AS LISTED IN BOM  
SHELL & HEAD MATERIAL SHALL BE SA516G70 PLATE  
MIN SHELL & HEAD THICKNESS IS 0.3125"  
NOMINAL SHELL & HEAD THICKNESS IS 0.375"  
ALL FITTINGS AND FLANGES SHALL BE SA-105 OR A-105N.
5. HYDROTEST TEST 195 PSI.
6. MAWP (DESIGN PRESSURE) SHALL BE 150 PSI.
7. NO X-RAY REQUIRED AS PER UW-11(B)
8. NO POST WELD HEAT TREATMENT AS PER UCS-56
9. REGISTERED WELD PROCEDURE REG. NO.: WPS42.3
10. MIN. DESIGN METAL TEMPERATURE -20 DEGREES F, @ 150P.S.I.
11. CORROSION ALLOWANCE FOR VESSEL IS 1/16"
12. CRN #
13. TYPE OF SUBSTANCE IS NATURAL GAS
14. VESSEL IS TO BE INSTALLED VERTICALLY
15. IMPACT TESTING NOT REQUIRED AS PER UG-20

## BILL OF MATERIALS

| ITEM | QTY. | PART No. | DESCRIPTION                                       |
|------|------|----------|---------------------------------------------------|
| A    | 1    |          | 4" FIG 500 SERIES 150 HUBER YALE CLOSURE SCH 80   |
| B    | 1    |          | 4" SCH 160 SMLS PIPE SA106B                       |
| C    | 1    |          | 30" 2:1 SEMI ELLIPTICAL HEAD 3/8" THICK SA516G70N |
| D    | 1    |          | 30" DIA X 3/8" THICK ROLLED PLATE SA516G70N       |
| E    | 1    |          | 2"-150# ANSI RF WN SCH 160 FLG SA105N             |
| F    | 2    |          | 2" SCH 160 SMLS PIPE SA106B                       |
| G    | 2    |          | 2" SCH 160 WN 90° ELBOW SA234WPB                  |
| H    | 1    |          | 1"-3000# T-O-L SA105N                             |
| J    | 1    |          | 1"-3000# T-O-L SA105N                             |
| K    | 4    |          | 1" SCH 160 SMLS PIPE SA106B                       |
| L    | 1    |          | 1" SCH 160 WN 90° ELBOW SA234WPB                  |
| M    | 1    |          | 1"-150# RF WN SCH160 FLG SA105N                   |
| N    | 1    |          | 1/2" MID STEEL PLATE                              |
| O    | 1    |          | 20" - 26" SMLS PIPE SA106B                        |
| P    | 1    |          | 5" MILD STEEL CHANNEL                             |
| Q    | 1    |          | 3/8"X1 1/2" MILD STEEL FLAT BAR                   |
| R    | 1    |          | 3/8" 316SS PLATE                                  |
| S    | 1    |          | 6" CHANNEL (NAME PLATE)                           |
| T    | 1    |          | 1/8" 316SS PLATE C/W 1/16" PERFERATIONS           |
| U    | 1    |          | 1"-3000# W-O-L SCH 160 SA105N                     |

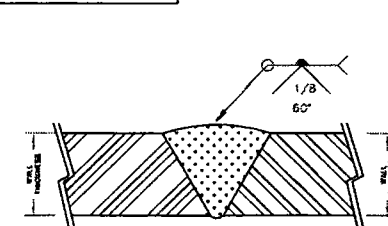
## NOZZLE SCHEDULE

| ITEM | QTY. | WELD DATA     | DESCRIPTION                                 |
|------|------|---------------|---------------------------------------------|
|      |      | A1 B2 C3      |                                             |
| 01   | 1    | 0.250 0.500 - | 2"-150# ANSI RF INLET                       |
| 02   | 1    | 0.250 1.000 - | 2"-150# ANSI RF OUTLET                      |
| 03   | 1    | 0.250 0.300 - | 1"-150# ANSI RF DRAIN                       |
| 04   | 1    | 0.500 1.500 - | 4" FIG 500 SERIES 150 FILL / INSPECTION     |
| 05   | 1    | 0.375 0.340 - | 2"-3000# T-O-L DUMP CONTROLLER / INSPECTION |
| 06   | 2    | 0.250 0.300 - | 1"-3000# T-O-L SIGHT GLASS                  |
| 07   | 1    | 0.375 0.340 - | 2"-3000# T-O-L HIGH LEVEL SHUTDOWN          |
| 08   | 3    | 0.250 0.300 - | 1"-3000# T-O-L SIGHT GLASS                  |
| 09   | 1    | 0.250 0.300 - | 1"-3000# T-O-L TEMPERATURE GUAGE            |

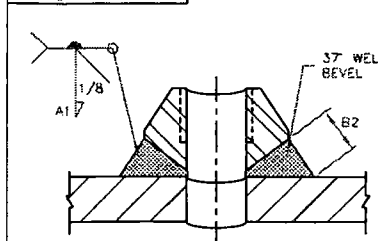
DESICCANT

1/2" CERAMIC SPHERE FOR DESICCANT PREBED

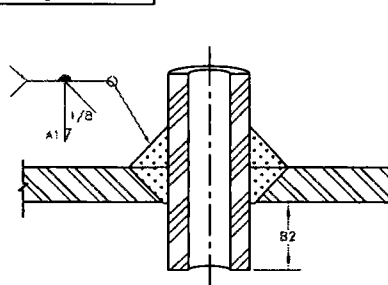
## WELD #4: BUTT WELD



## WELD #3: BUTT WELD



## WELD #2: NOZZLE



| REV | DATE     | REVISION DESCRIPTION                            | WZ |
|-----|----------|-------------------------------------------------|----|
| 1   | 05/28/02 | Dimension changes overall length & Seam to Seam | WZ |
| 2   |          |                                                 |    |
| 3   |          |                                                 |    |
| 4   |          |                                                 |    |



TITLE

WATERFLOOD SERVICE & SALES  
Desiccant Dryer  
DD30-46

PROJECT

DD30-46  
LAYOUT  
JOB#1000-B

DESIGNED

Jade Cable

DATE

04/26/02

DRAWN

Jade Cable

DATE

04/26/02

APPROVED

DATE

CHECKED

B.Blackburn

DATE

04/26/02

SCALE

1"=1'

COMPUTER FILE #

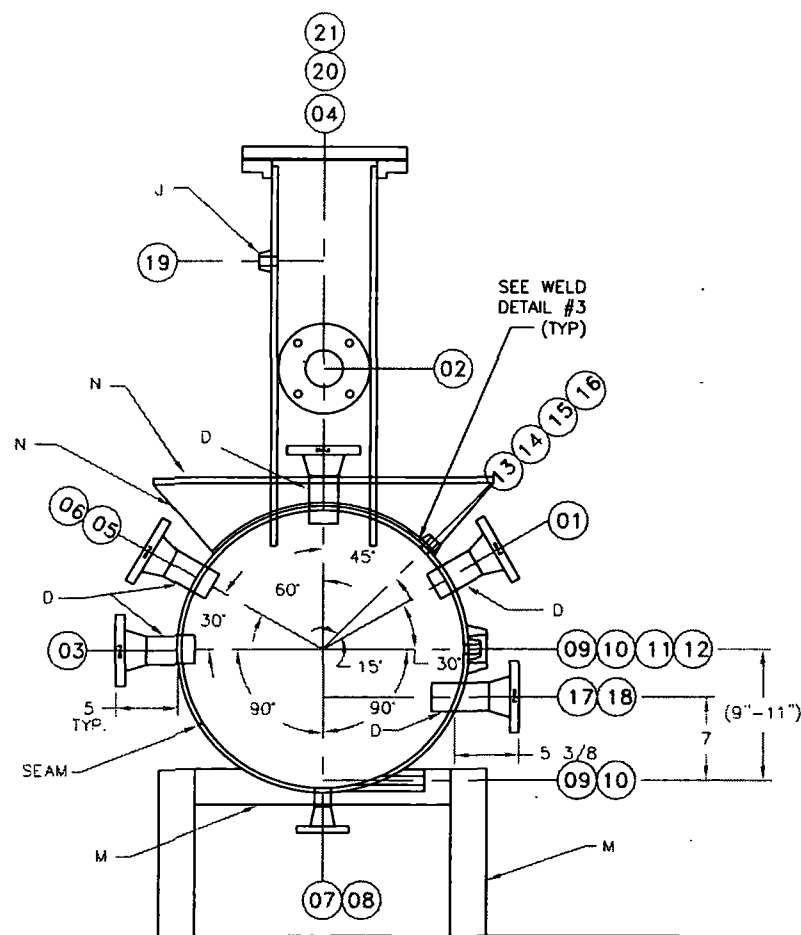
DD30-46.dwg

SHEET

1 of 2

REV

1



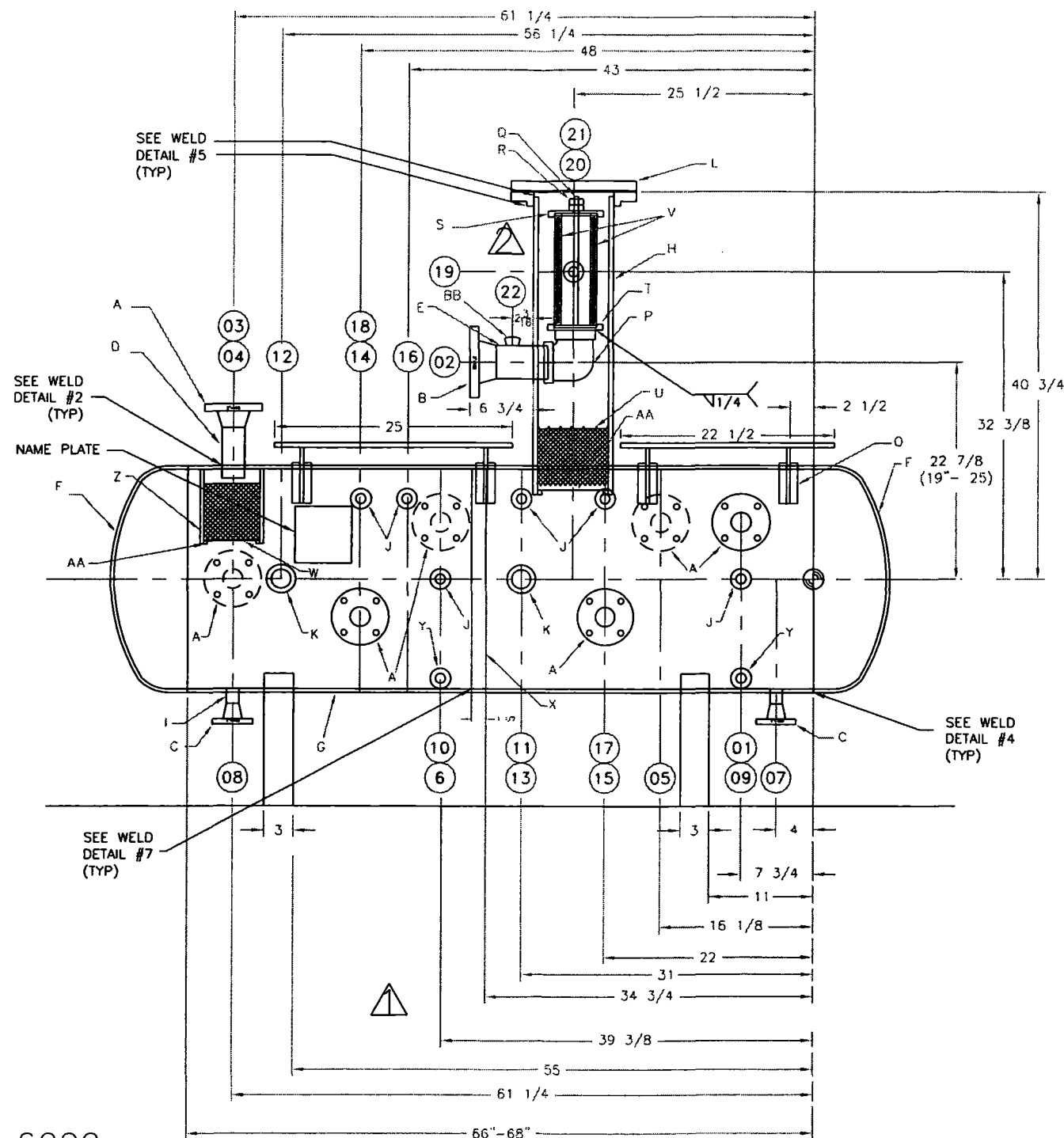
PLAN VIEW

DESIGN NOTES:

1. TYPICAL BUTT WELDS PER UW-12 TYPE 1.
2. DESIGN TEMPERATURE 350°F. (177 DEGREES C.)
3. FABRICATE TO A.S.M.E. CODE FOR PRESSURE VESSELS, SECTION 8, DIVISION 1, 2001 EDITION.
4. NOZZLE MATERIAL SHALL BE SA-106B  
HEAD MATERIAL SHALL BE SA516G70 PLATE  
MIN HEAD THICKNESS IS 0.3125"  
NOM HEAD THICKNESS IS 0.375"  
SHELL MATERIAL SHALL BE SA516G70 PLATE  
MIN SHELL THICKNESS IS 0.375"  
NOM SHELL THICKNESS IS 0.375"  
ALL FITTINGS AND FLANGES SHALL BE SA-105 OR A-105N.
5. HYDROTEST TEST 195 PSI.
6. MAWP (DESIGN PRESSURE) SHALL BE 150 P.S.I.
7. NO X-RAY REQUIRED AS PER UW-52 (B)(1) UW11 (B)
8. NO POST WELD HEAT TREATMENT REQUIRED AS PER UCS-56
9. MIN. DESIGN METAL TEMPERATURE -20 °F. @ 150 P.S.I.
10. CORROSION ALLOWANCE FOR VESSEL IS 1/16"
11. CRN #
12. TYPE OF SUBSTANCE IS NATURAL GAS
13. VESSEL IS TO BE INSTALLED VERTICALLY
14. ALL MILD STEEL IS GRADE A36 OR / 44W

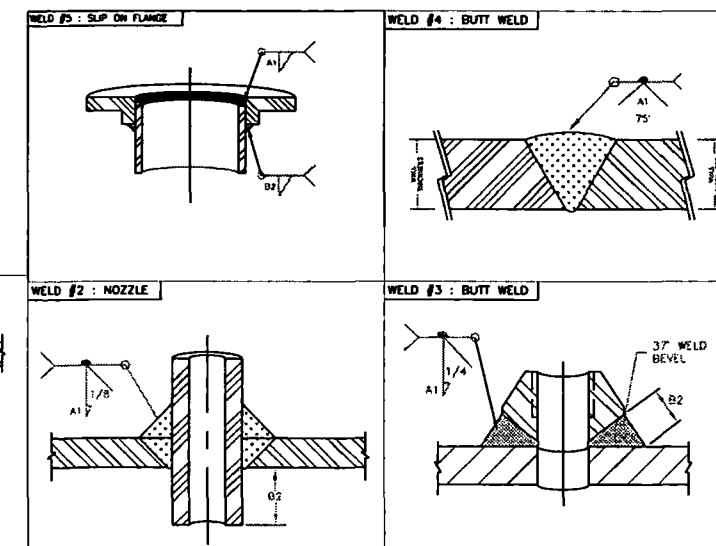
E9# 6000

SN# 02100003



| BILL OF MATERIALS |      |                                                  |
|-------------------|------|--------------------------------------------------|
| ITEM              | QTY. | PART No.                                         |
| A                 | 7    | 2"-150# ANSI SCH80 RF WN FLANGE SA105N           |
| B                 | 1    | 2" OR 3"-150# ANSI SCHD 80 RF WN FLANGE SA105N   |
| C                 | 2    | 1"-150# ANSI SCHD160 RF WN FLANGE SA105N         |
| D                 | -    | 2" SCH 80 SMLS PIPE SA106B                       |
| E                 | -    | 2" OR 3" SCH 80 SMLS PIPE SA106B                 |
| F                 | 2    | 24" 3/8" THICK 2:1 SEMI ELLIPTICAL HEAD SA516G70 |
| G                 | 1    | 24" ROLLED 3/8" PLATE SA516G70                   |
| H                 | -    | 8" SCH80 SMLS PIPE SA106B                        |
| I                 | -    | 1" SCH160 SMLS PIPE SA106B                       |
| J                 | 7    | 1"-3000# T.O.L SA234WPB                          |
| K                 | 2    | 2"-3000# NPT T.O.L SA234WPB                      |
| L                 | 1    | 8"-150# ANSI BLIND FLANGE FOR REMOVAL OF FILTER  |
| M                 | -    | 3"x 1/4" SQUARE TUBING MILD STEEL                |
| N                 | -    | 1/2" PLATE (MILD STEEL)                          |
| O                 | -    | 1/4" X 2" PLATE (MILD STEEL) FLAT BAR            |
| P                 | 1    | 2" OR 3" THD 3000# 90° ELBOW SA234WPB            |
| Q                 | 1    | 20" LONG- 1/2" NC READY ROD                      |
| R                 | 2    | 1/2" NC HEX NUT                                  |
| S                 | 1    | 100TIS001 FILTER CAP                             |
| T                 | 1    | 100TIS002 FILTER BASE                            |
| U                 | 1    | 7"-7/8" OD X 6" 316 S.S. 9#/FT DIVMESH PAD       |
| V                 | 1    | 85-1-FG12 PECO SINGLE STAGE FILTER               |
| W                 | 1    | 6" OD X 4" 316 S.S. 9#/FT DIVMESH PAD            |
| X                 | 1    | 1-1/2" X 23- 1/4" DIAMETER PLATE SA516G70        |
| Y                 | 1    | 1"-3000# E.O.L SA105N                            |
| Z                 | 1    | 6" SCH80 SMLS PIPE SA106B                        |
| AA                | 1    | 3/4" EXPANDED METAL (MILD STEEL)                 |
| BB                | 1    | 1/2"-3000# TOL SA105N                            |

| NOZZLE SCHEDULE |      |               |
|-----------------|------|---------------|
| ITEM            | QTY. | WELD DATA     |
|                 |      | A1 B2 C3      |
| 01              | 1    | 0.250 1.000 - |
| 02              | 1    | 0.300 1.000 - |
| 03              | 1    | 0.250 1.000 - |
| 04              | 1    | 0.250 1.000 - |
| 05              | 1    | 0.250 1.000 - |
| 06              | 1    | 0.250 1.000 - |
| 07              | 1    | 0.250 0.300 - |
| 08              | 1    | 0.250 0.300 - |
| 09              | 2    | 0.250 0.300 - |
| 10              | 2    | 0.250 0.300 - |
| 11              | 1    | 0.375 0.340 - |
| 12              | 1    | 0.375 0.340 - |
| 13              | 1    | 0.250 0.300 - |
| 14              | 1    | 0.250 0.300 - |
| 15              | 1    | 0.250 0.300 - |
| 16              | 1    | 0.250 0.300 - |
| 17              | 1    | 0.375 1.500 - |
| 18              | 1    | 0.375 1.500 - |
| 19              | 1    | 0.250 0.300 - |
| 20              | 1    | 0.250 0.300 - |
| 21              | 1    | 0.500 2.000 - |
| 22              | 1    | 0.250 0.300 - |



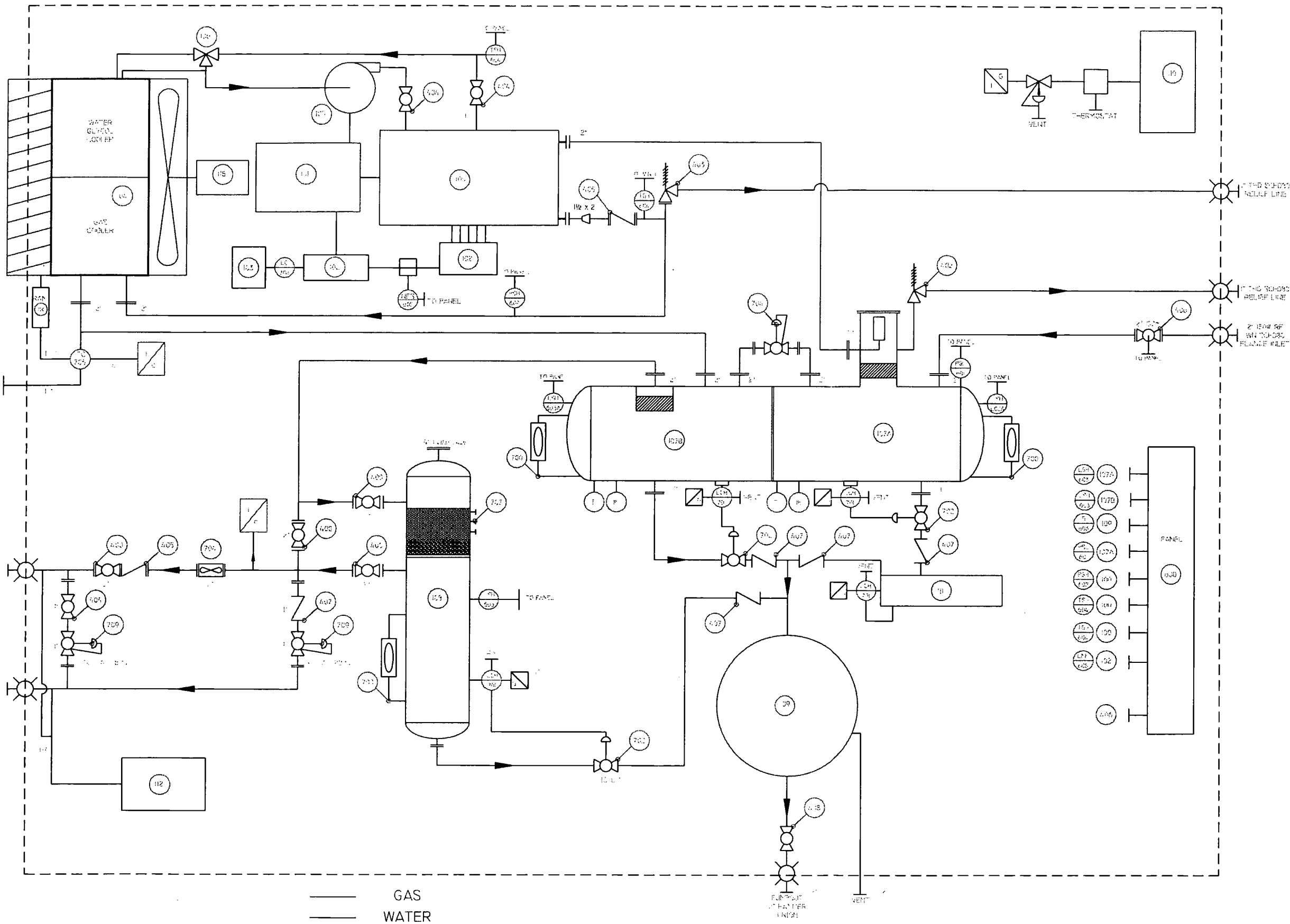
| REV | DATE     | REVISION DESCRIPTION                      |    |
|-----|----------|-------------------------------------------|----|
| 1   | 05/31/02 | Dimension change seam to seam & nozzle 06 | WZ |
| 2   | 06/04/02 | Addition of Item#22 (1/2" TOL)            | WZ |
| 3   |          |                                           |    |
| 4   |          |                                           |    |



TITLE  
WATERFLOOD SERVICE AND SALES  
24" X 68" S.S  
INLET/ OUTLET SEPERATOR

PROJECT  
SEPERATOR  
LAYOUT  
JOB#1000-B

|                       |                                       |                       |                  |
|-----------------------|---------------------------------------|-----------------------|------------------|
| DESIGNED<br>W.ZAHAYKO | DATE<br>04/22/02                      | DRAWN<br>W.ZAHAYKO    | DATE<br>04/22/02 |
| APPROVED              | DATE<br>05/02/02                      | CHECKED<br>JADE CABLE | DATE<br>05/02/02 |
| SCALE<br>3/4"=1'      | COMPUTER FILE #<br>SCRU-24-68-2ST.DWG | SHEET<br>1 OF 1       | REV<br>2         |



| BILL OF MATERIALS |      |                                                                                                                                   |
|-------------------|------|-----------------------------------------------------------------------------------------------------------------------------------|
| ITEM              | QTY. | DESCRIPTION                                                                                                                       |
| 100               | 1    | A.C. COMPRESSOR MODEL 700 RO-F 0 SLIDING VANE                                                                                     |
| 101               | 1    | 60 HP 1800 RPM 480/3/60 VOLT 3P ELECTRIC MOTOR                                                                                    |
| 102               | 1    | TRABON LUBRICATION SYSTEM C/W LUBE BOX, MANIFOLD BLOCK, PSI GAUGE, DIVIDER BLOCK, AND RUPTURE ASSEMBLY.                           |
| 103               | 1    | 5 GALLON DAY TANK                                                                                                                 |
| 104               | 1    | 2 SECTION GAS/WATER COOLER                                                                                                        |
| 105               | 1    | 6X15 VIKING GEAR DRILL BITING PUMP                                                                                                |
| 106               | 1    | THERMOSTAT VALVE                                                                                                                  |
| 107               | 1    | TWO SECTION GAS SEPARATOR - INLET AND OUTLET C/W DEMISTER PAD AND REQUIRED CONNECTIONS. INLET SEPARATOR COMES WITH FILTER ELEMENT |
| 108               | 1    | MODEL DD3000A DESICCANT DRYER                                                                                                     |
| 109               | 1    | WATER STORAGE TANK                                                                                                                |
| 110               | 1    | CISCAN 25X30 (30,000 BTU) 120 VOLT START NAT'L GAS GAS CATALYTIC HEATER                                                           |
| 111               | 1    | BLOW CASE                                                                                                                         |
| 112               | 1    | LING MODEL 87-11-21 METHANOL INJECTION PUMP C/W GAS DRIVER                                                                        |
| 113               | 1    | HEAVY DUTY OILFIELD SAID C/W WIDE FLANGE CONSTRUCTION                                                                             |
| 114               | 1    | 3' X12' X3' STEEL SELF FRAMING GABLE STYLE BUILDING                                                                               |
| 115               | 1    | 3HP 3600RPM 480/3/60 VOLT 3P ELECTRIC MOTOR                                                                                       |
| 400               | 5    | 2"-150# RF RP NACE TRIM BALL VALVE                                                                                                |
| 401               | 0    | 1"-150# RF RP NACE TRIM BALL VALVE                                                                                                |
| 402               | 1    | TAYLOR MODEL 8000 - 1" RELIEF VALVE SET AT 11.5 PSI                                                                               |
| 403               | 1    | TAYLOR MODEL 8000 - 1" RELIEF VALVE SET AT 20 PSI                                                                                 |
| 404               | 3    | 1"-2000# THD NACE TRIM BALL VALVES                                                                                                |
| 405               | 2    | 2"-150# RF RP NACE TRIM CHECK VALVES                                                                                              |
| 406               | 1    | 2"-150 RF RP NACE TRIM BALL VALVE C/W ELECTRIC ACTUATOR                                                                           |
| 407               | 5    | 1" 2000# THD NACE TRIM CHECK VALVES                                                                                               |
| 408               | 1    | 2"-2000# THD NACE TRIM BALL VALVE                                                                                                 |
| 600               | 1    | MURPHY LCD-40C INTRINSICALLY SAFE, ALARM AND SHUTDOWN PANEL                                                                       |
| 601               | 1    | LOW SUCTION PRESSURE - SHUTDOWN                                                                                                   |
| 602               | 1    | HIGH DISCHARGE PRESSURE - SHUTDOWN                                                                                                |
| 603               | 3    | MURPHY L-1000 LEVEL - SHUTDOWN                                                                                                    |
| 604               | 2    | HIGH TEMPERATURE - SHUTDOWN                                                                                                       |
| 605               | 1    | LUBRICA OR NO FLOW - SHUTDOWN                                                                                                     |
| 700               | 3    | LIQUID LEVEL SIGHT GLASS                                                                                                          |
| 701               | 1    | NORRISEAL MODEL 1001A PNEUMATIC OPERATED LEVEL CONTROL                                                                            |
| 702               | 3    | NORRISEAL PNEUMATIC DUMP VALVE - SERIES #2275                                                                                     |
| 703               | 1    | FISHER MODEL 3-2204 REGULATOR                                                                                                     |
| 704               | 1    | GAS FLOW METER AND TOTALIZER                                                                                                      |
| 705               | 1    | KIMRAY TEMPERATURE CONTROLLER                                                                                                     |
| 706               | 1    | GARZO MOTOR FOR LUGGER CONTROL                                                                                                    |
| 707               | 3    | 1" BULLS EYE SIGHT GLASS                                                                                                          |
| 708               | 1    | LUBRICATOR LEVEL CONTROLLER MODEL P298                                                                                            |
| 709               | 2    | FISHER MODEL #271 INLET REGULATORS                                                                                                |

| REV | DATE     | REVISION DESCRIPTION       |    |
|-----|----------|----------------------------|----|
| 1   | 04/26/02 | UPDATED P & ID             | WZ |
| 2   | 05/24/02 | updated and fix flow meter | jc |
| 3   |          |                            |    |
| 4   |          |                            |    |

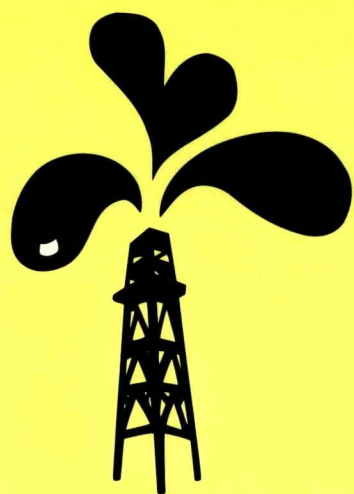


TITLE

HUSKY ENERGY  
P&ID  
AC COMPRESSOR

PROJECT  
GAS COLLECTION SKID  
P&ID  
JOB #991-B

|                           |                                 |                            |                  |
|---------------------------|---------------------------------|----------------------------|------------------|
| DESIGNED<br>Wayne Zahayko | DATE<br>02/18/02                | DRAWN<br>Jade Cable        | DATE<br>02/18/02 |
| APPROVED                  | DATE                            | CHECKED<br>Brent Blackburn | DATE<br>05/24/02 |
| SCALE<br>NTS              | COMPUTER FILE #<br>991_P&ID.DWG | SHEET<br>1 OF 1            | REV<br>2         |
|                           | DRAWING CONTROL #<br>991-1-10   |                            |                  |



# **WATERFLOOD**

# **WSS**

## **ERVICE &**

## **ALES**

## **LTD.**

TM



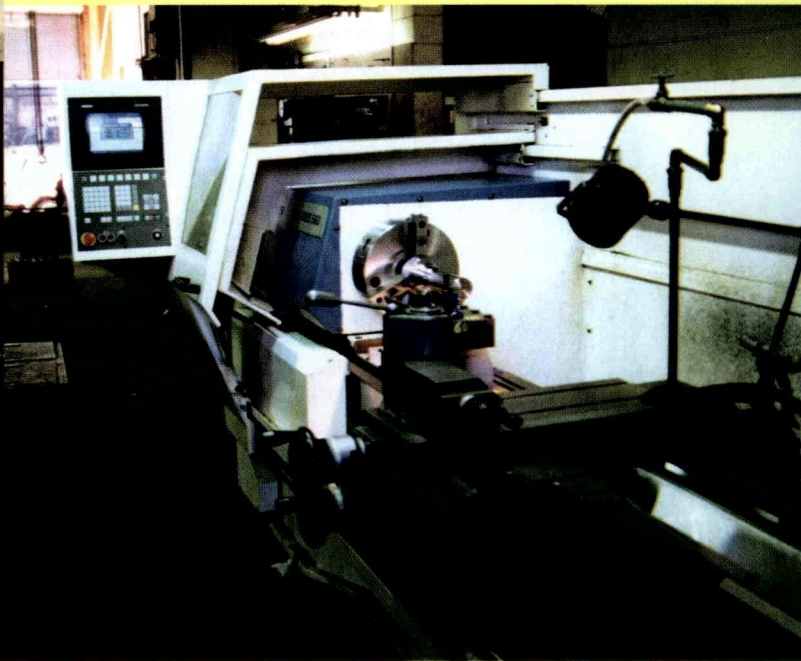
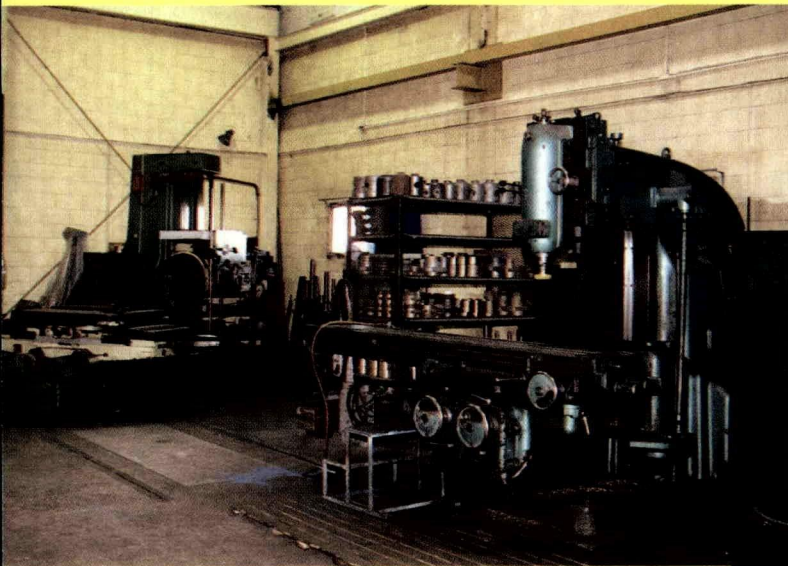
# waterflood

## **Service Centres**

Waterflood Service Centres provide professional, cost effective solutions to your machining and mechanical repair needs.

### **Waterflood is committed to:**

- An understanding of our customer's needs
- Efficient, professional service
- Cost effective solutions to our customers requirements
- Ongoing employee product and services training
- Internal quality control from start to finish of every job, big or small
- A safe and healthy work environment



## **About the company**

Waterflood Service and Sales Ltd. was founded in 1970 and is a privately owned Canadian company located in Western Canada. The family that originally started the company over 30 years ago is still involved in the day-to-day operations. Our

company has evolved into a highly technical and diverse service and supply company. Waterflood has sales, engineering services, machining and mechanical service centres throughout Western Canada.

# product line

## **PUMPS**

**Gardner-Denver:** plunger, duplex, well service, drilling

**OPI:** plunger, well service, drilling

**Ajax:** vertical plunger pumps

**Viking:** centrifugal, rotary, turbine

**Bowie:** gear

**Remanufactured:** National, Wheatly and Oilwell  
plunger pumps



## **COMPRESSORS**

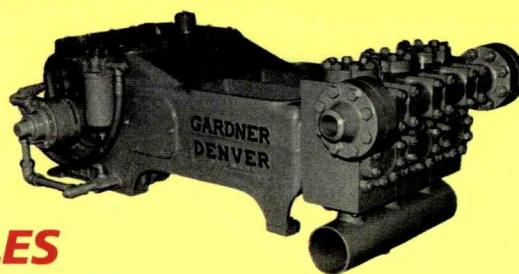
**Gardner-Denver:** VRU, Flooded Screw

**Ajax Remanufactured:** gas

**AC Ro-Flo:** VRU, gas, air

**Ariel:** gas

**Corken:** VRU, gas, air



## **PARTS AND EXPENDABLES**

**Gardner-Denver:** pump and compressor parts

**Ajax:** pump, engine and compressor parts

**Coors:** valves, plungers, centrifugal expendables

**Utex:** packing, mechanical seals, moulded products

**WSS:** manufactured spare parts for most oilfield pumps

**Drilling Equipment:** parts and equipment

## **ACCESSORIES**

**Stabilizers:** Coors P.E., Fluid-Kinetics,  
Pulsation Performance

**Engines:** New and Remanufactured: Ford,  
Caterpillar, Detroit Diesel, Waukesha, Ajax

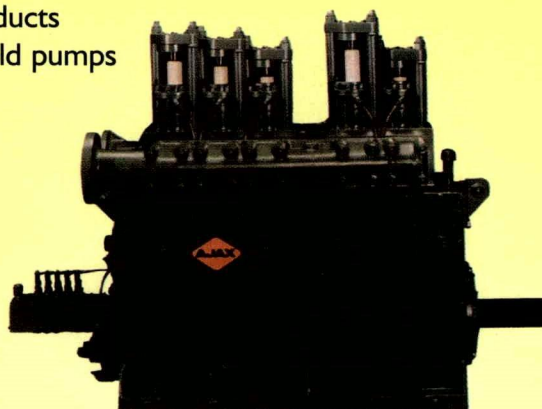
**Electric Motors:** Westinghouse, Toshiba

**Filtration:** bag, cartridge

**Drives:** belt, coupling, gear boxes

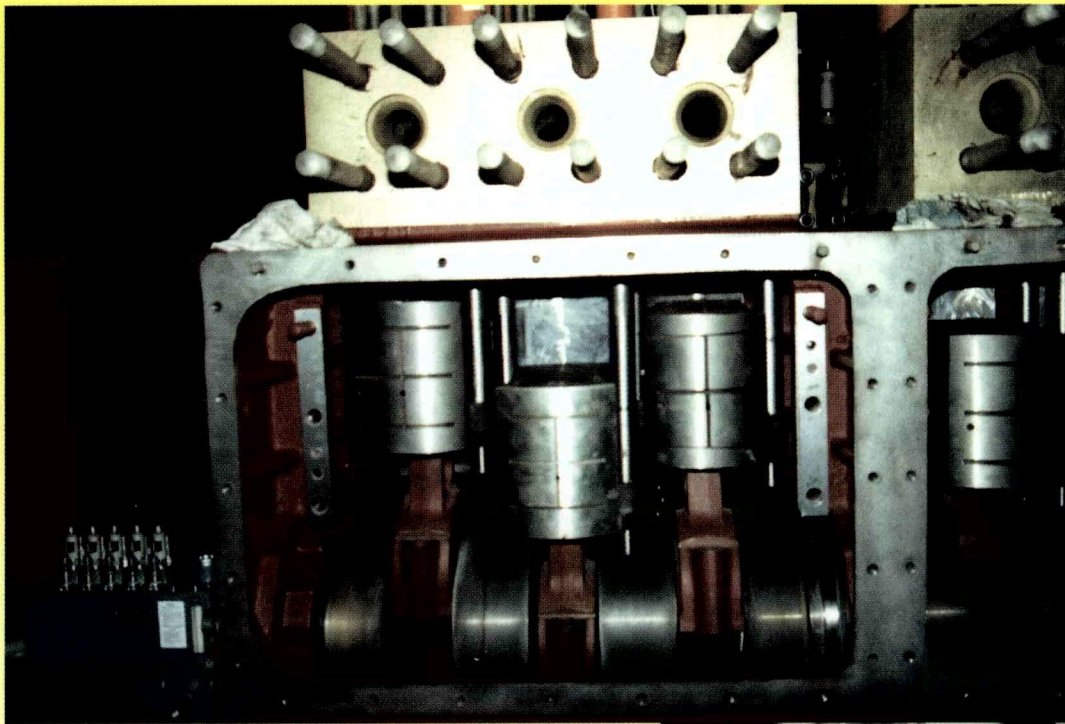
**Instrumentation:** F.W. Murphy,  
flowmeters, end devices

**Skids, piping, guards:** WSS fabricated



# ***Quality Control***

Waterflood has established and maintains an in-house quality control system which compliments the requirements of CWB and our registered provincial quality control manual.



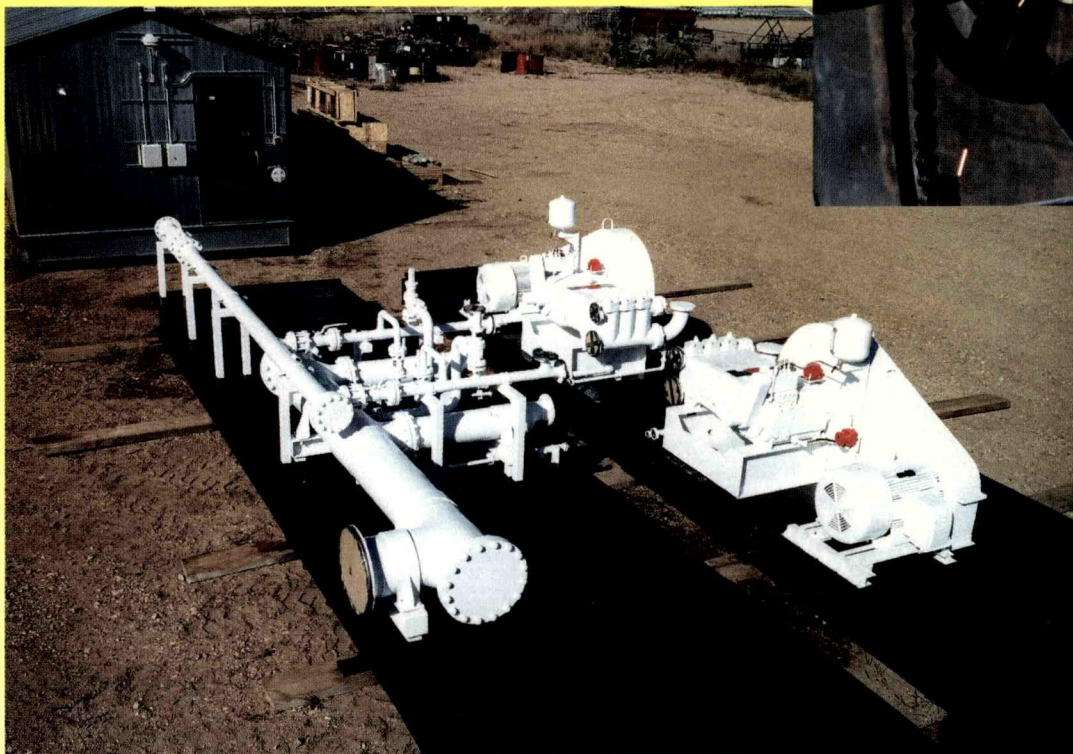
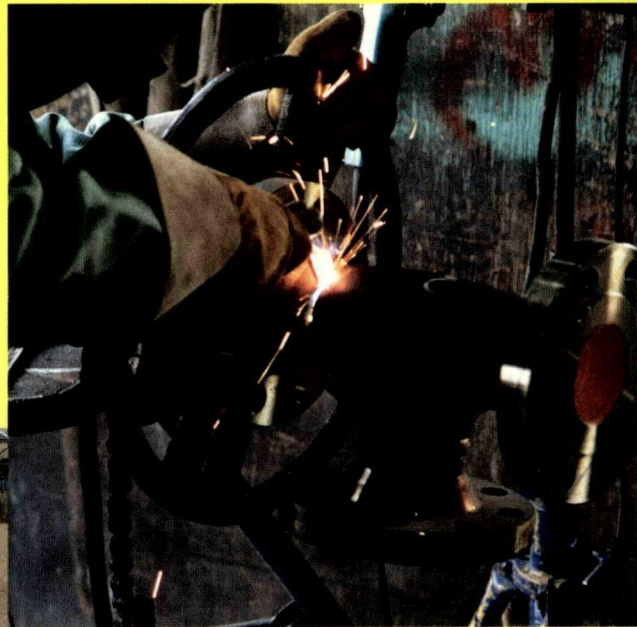
# ***Engineering Services***

The Engineering group provides technical support for Waterflood Service Centres and packaging department. Our engineers and technicians are knowledgeable in the latest and existing technology to provide our customers with comprehensive service.



# ***Safety***

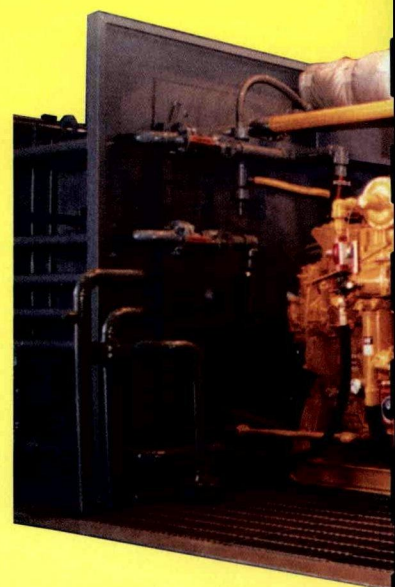
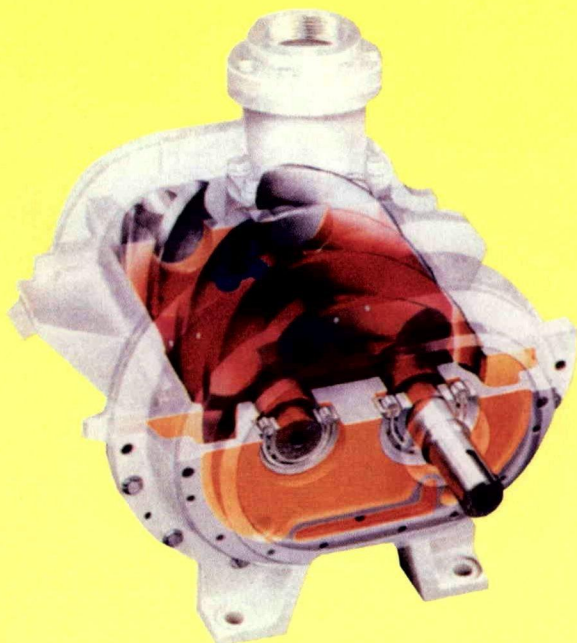
Waterflood believes safety and production are synonymous. Waterflood provides ongoing safety training to all employees, providing them with the required knowledge to perform their work in the safest possible manner. Our in-house safety program continually monitors and updates all safety aspects, from the beginning employee to upper management.



# ***Fabrication & Packaging***

Waterflood's fabrication shop is able to package oilfield equipment efficiently in a controlled all service environment.

# ***Gardner-Denver Rotary Screw Compressors for Natural Gas Industry***



## ***EXCLUSIVE ADVANTAGES OF GARDNER-DENVER SCREW COMPRESSORS***

- All Compressors have Integral Frame Mounted Oil Pump.
- SAE Housing for direct coupling to driver. No stand alone gear boxes.
- Rotors up to 41% larger than competitors resulting in lower speeds that extend longer bearings and compressor life, reduce compressor heat and contribute to overall lower compressor costs.
- Automatic turn valve capacity control.

| MODEL | TURN VALVE | RPM RANGE   | PEAK HORSEPOWER | PRESSURE RANGE INLET-DISCHARGE (MAX) | CAPACITY UP TO MMSCFD |
|-------|------------|-------------|-----------------|--------------------------------------|-----------------------|
| SSE   | No         | 1263 - 5524 | 55              | 50 - 375                             | 0.73                  |
| SSF   | No         | 995 - 4369  | 60              | 50 - 375                             | 0.99                  |
| SSH   | Yes        | 863 - 3777  | 90              | 50 - 375                             | 1.37                  |
| SSM   | Yes        | 742 - 3245  | 135             | 50 - 375                             | 2.21                  |
| SSP   | Yes        | 673 - 2945  | 180             | 50 - 375                             | 2.63                  |
| SSQ   | Yes        | 616 - 2695  | 240             | 50 - 300                             | 3.60                  |
| SSU   | Yes        | 1161 - 3226 | 460             | 50 - 250                             | 6.70                  |
| SSY   | Yes        | 1161 - 3226 | 660             | 50 - 250                             | 9.67                  |



## FEATURES

- No overhead piping - all piping in skid floor or along walls for clean unobstructed walk ways.
- Properly designed and sized oilfield style cooler to maintain correct temperatures.
- Murphy intrinsically safe, normally closed alarm and shut down panel.
- Pneumatic suction and blow-down valves operated from panel.
- Oilfield recognized Caterpillar engines on units over 80 h.p.
- Ford and GM engines available.
- Drop deck trailer design allows for heavy duty axle and trailer assembly, low skid installation and no wheel wells in skid.
- Storage compartment on trailer deck for stairs, oil, tools, etc.
- Four corner leveling jacks.
- Designed to accommodate all field conditions. Independent hook up for air start or natural gas start, and run on natural gas or propane.



| TURN VALVE | CYLINDER<br>TURN VALVE | %<br>VOLUME | %<br>POWER |
|------------|------------------------|-------------|------------|
|            |                        | 90          | 93         |
|            |                        | 85          | 88         |
|            |                        | 80          | 85         |
|            |                        | 75          | 81         |
|            |                        | 70          | 78         |
|            |                        | 65          | 75         |
|            |                        | 60          | 72         |
|            |                        | 55          | 70         |
|            |                        | 50          | 67         |
|            |                        | 45          | 65         |
|            |                        | 40          | 64         |



**WATERFLOOD PACKAGES GARDNER-DENVER SCREWS**  
***"Because We Package The Best"***

## **HEAD OFFICE/PLANT**

Estevan, Saskatchewan, Canada  
P.O. Box 1490, 130 Perkins Street, S4A 0C3  
Phone (306) 634-7212  
Fax (306) 634-7887

## **SERVICE CENTRE**

Lloydminster, Alberta, Canada  
P.O. Box 1859  
Phone (780) 875-7638  
Fax (780) 875-6108

## **SERVICE CENTRE**

Edmonton, Alberta, Canada  
8705 - 53rd Avenue, T6E 5E9  
Phone (780) 465-2333  
Fax (780) 465-3900

## **SALES OFFICE**

Calgary, Alberta, Canada  
Box 432 Station M, T2P 2J1  
Phone (403) 221-8000  
Fax (403) 221-8004

## **SERVICE CENTRE**

Taber, Alberta, Canada  
5810 - 58th Avenue, T1G 1Y2  
Phone (403) 223-9529  
Fax (403) 223-2569



*"Get pumped up at [www.waterflood.com](http://www.waterflood.com)"*

