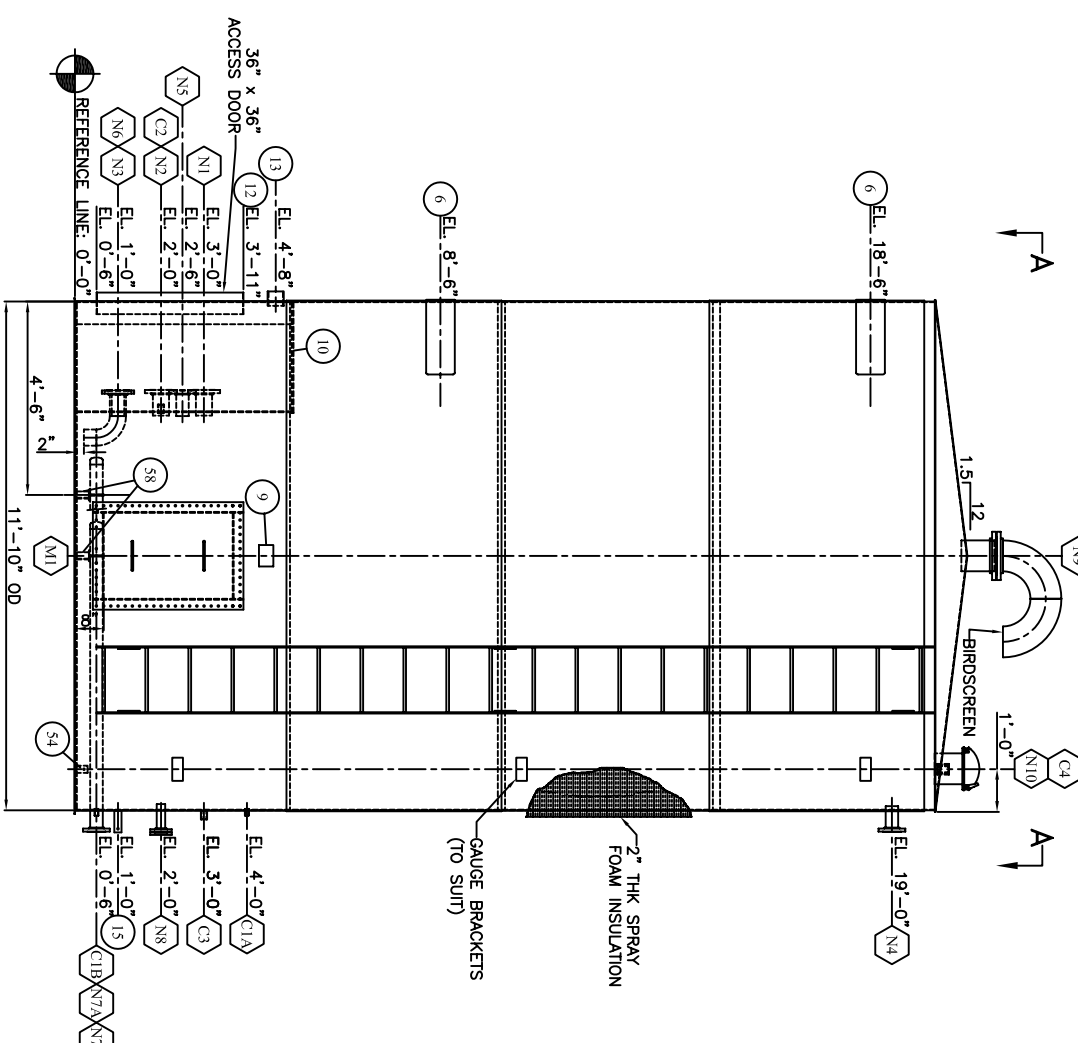
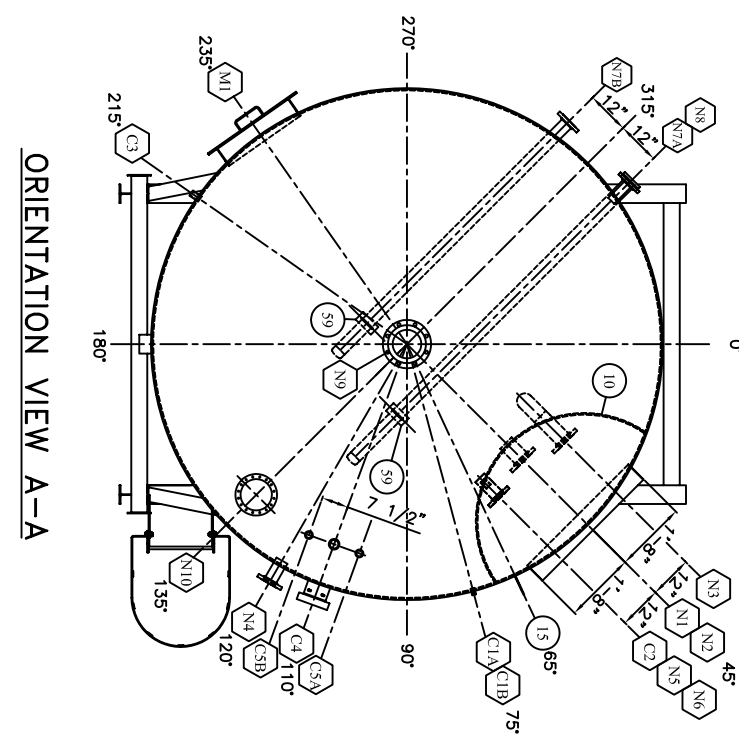


GENERAL NOTES

- DESIGNED TO API-12F (NOT STAMPED)
- DESIGN PRESSURE: 16 oz/m²
- DESIGN VACUUM: 0.4 oz/m²
- DESIGN TEMPERATURE: 200°F
- CORROSION ALLOWANCE: NIL
- RADIOGRAPH: NIL
- AIR/SOAP LEAK TEST: TO 1.0 PSI MAXIMUM
- EXTERNAL SANDBLAST:
- NON-INSULATED AREAS: SSPC-SP6 (COMMERCIAL)
- INSULATED AREAS: SSPC-SP3 (POWER TOOL CLEANING)
- EXTERNAL FINISH:
- UNDER SIDE OF TANK FLOOR: ONE (1) COAT BAR RUST 236 EPOXY PRIMER
- SHELL AND ROOF NON-INSULATED AREAS ONLY: ONE (1) COAT DTM 835 (BLACK)
- INTERNAL FINISH: DEVCO 253/253HS AS PER MANUFACTURERS SPECIFICATIONS
- INSULATION:
- SHELL & ROOF: 2" THK SPRAY FOAM INSULATION w/ ELASTOMERIC SEALER (BLACK)
- ENVIROVAULT ACCESS: 1 1/2" THK GALVALUME CLAD RIGID URETHANE
- ALL BOLT HOLES TO STRADDLE CENTERLINE
- ALL OPENINGS TO BE COVERED PRIOR TO SHIPPING
- ALL OUTSIDE PROJECTIONS MEASURED ALONG CENTERLINE OF NOZZLE
- ALL INSIDE PROJECTIONS MEASURED ALONG SHORT-SIDE OF NOZZLE
- SHIPPING WEIGHT: 16,000 LBS
- SHIPPING DIMENSIONS: 12'-4" W x 13'-6" H x 24'-6" LG



ELEVATION VIEW
FOR ELEVATION PURPOSES ONLY



ORIENTATION VIEW A-A

| NOZZLE NUMBER | WELD DETAIL NUMBER | REGISTERED WELDING PROCEDURE | FILL & CAP | BACKWELD/GOUGE |
|---------------|--------------------|------------------------------|---------------|----------------|
| 1 | 1 | 1.2, 3.6, 7.8, 9, 11 | BWM-19 (GMAW) | BWM-19 (GMAW) |
| 2 | 2 | 5 | BWM-19 (GMAW) | BWM-3 (SAW) |
| 3 | 3 | 2, 3, 10 (STAINLESS) | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 4 | 4 | 6 | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 5 | 5 | 7 | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 6 | 6 | 8 | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 7 | 7 | 9 | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 8 | 8 | 10 | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 9 | 9 | 11 | BWM-12 (GMAW) | BWM-12 (GMAW) |
| 10 | 10 | 11 | BWM-12 (GMAW) | BWM-12 (GMAW) |

NOZZLE SCHEDULE

| MARK | QTY | DESCRIPTION | NPS | CLASS | TYPE | PROTECTION | WELD | REPAD | BILL OF MATERIALS |
|-------|-----|----------------------|-------|-------|------|------------|---------|--------|-------------------|
| | | | | | | INSIDE | OUTSIDE | DETAIL | ITEM NUMBER |
| N1 | 1 | FILL | 150 | RFSO | 1" | 6" | 1.3 | 1/4 | 1/4 |
| N2 | 1 | PUMP OUTLET | 150 | RFSO | 1" | 6" | 1.3 | 1/4 | 1/4 |
| N3 | 1 | DRAIN | 150 | RFSO | 1" | 6" | 1.3 | 1/4 | 1/4 |
| N4 | 1 | LSHH | 150 | RFSO | 1" | 6" | 1.2 | 3/16 | - |
| N5 | 1 | LSHL | 150 | RFSO | 1" | 6" | 1.3 | 1/4 | 1/4 |
| N6 | 1 | HEATER | 150 | RFSO | 1" | 6" | 1.3 | 1/4 | 1/4 |
| N7A | 1 | HEATER | 150 | RFSO | 1" | 6" | 1.2 | 3/16 | - |
| N7B | 1 | HEATER | 150 | RFSO | 1" | 6" | 1.2 | 3/16 | - |
| N8 | 1 | THERMOSTAT | 150 | RFSO | 1" | 6" | 1.2 | 3/16 | - |
| N9 | 1 | VENT | 150 | RFSO | 1" | 6" | 1.3 | 3/16 | 1/16 |
| N10 | 1 | THIEF HATCH | 8 | API | APSO | 1" | 3 | 3/16 | 3/16 |
| C1A/B | 2 | FUTURE GAUGE | 1/2 | 3000 | CPGL | 1/4" | - | 2 | 3/16 |
| C2 | 1 | 3000 | CPGL | 1/4" | - | - | - | - | - |
| C3 | 1 | INTERMITTENT W/VALVE | 1 | 3000 | CPGL | 1/4" | - | 4 | 3/16 |
| C4 | 1 | LEVEL GAUGE | 2 | 3000 | CPGL | 1/4" | - | 3 | 3/16 |
| C5A/B | 2 | CABLE GUIDES | 1/4 | 3000 | CPGL | 1/4" | - | 3 | 3/16 |
| M1 | 1 | MANWAY | 24x36 | API | FAB | 1/2" | - | 2 | 3/16 |

BILL OF MATERIALS

| ITEM | QTY | REF. | PART No. | DESCRIPTION | MATERIAL | WEIGHT |
|------|-----|-------------|-----------|--|--------------|--------|
| 4 | 4 | INT SHELL | 1-0004869 | 3/16" THK x 60" W ROLL TO 11'-10" OD (CIRC-37'-2 1/8" LG) | SA-36 | 5700# |
| 4 | 4 | EXT SHELL | 1-0004872 | 10 Gg x 60" W ROLL TO 11'-10" ID (CIRC-37'-3" LG) | SA-36 | 3600# |
| 1 | 1 | INT FLOOR | 1-006207 | 1/4" THK x 11'-9 5/8" OD | SA-36 | 1100# |
| 4 | 4 | EXT FLOOR | 1-006206 | 3/16" THK x 12'-0" OD | SA-36 | 865# |
| 5 | 1 | ROOF | 1-006205 | 3/16" THK x 6'-0" RADIUS HALF CIRCLE (12:1.5 SLOPE) | SA-36 | 870# |
| 2 | 2 | SADDLE | - | SADDLES (SEE DWG D1556-2 FOR DETAIL) | - | - |
| 7 | 1 | SKID | - | L-TYPE SKID (SEE DWG D1556-2 FOR DETAIL) | - | 2200# |
| 8 | 1 | LADDER | - | LADDER & CAGE ASSEMBLY (SEE DWG D1556-3 FOR DETAIL) | - | 375# |
| 1 | 1 | NAMEPLATE | 2-000218 | 4" x 6" NAMEPLATE BRACKET | SA-36 | 2# |
| 1 | 1 | NAMEPLATE | 1-005106 | 4" x 6" ENGRAVED NAMEPLATE | ALUM | 1# |
| 98 | 1 | NAMEPLATE | 1-004097 | ENVIROVAULT MODEL EV 5Wx5H | SA-36 | 250# |
| 10 | 1 | ENVIROVAULT | 1-001086 | 6" x 1/8" FLATBAR x 3'-5" LG | SA-36 | 8# |
| 12 | 2 | ENVIROVAULT | 1-001086 | 6" x 1/8" FLATBAR x 3'-3 3/4" LG | SA-36 | 7# |
| 13 | 1 | ENVIROVAULT | 1-003368 | 4" PIPE SOH STD x 4" LG (RBE) | SA-106-B | 2# |
| 14 | 1 | ENVIROVAULT | 1-003368 | 1 1/2" x 8" LG RIGID URETH, CORR & GALVALUME BOTH SIDES | SA-106-B | 4# |
| 15 | 1 | GROUND LUG | 2-000228 | 1/4" THK x 2" x 6" LG GROUND LUG c/w HOLE (TEMPLATE#16) | SA-106-N | 12# |
| 16 | 3 | N1,N2,N3 | 1-000917 | 4" x CLASS 150 RFSO FLG | SA-106-B | 12# |
| 17 | 2 | N1,N2 | 1-003368 | 4" PIPE SOH STD x 9 5/8" LG (COE,ROE) | SA-106-B | 8# |
| 18 | 1 | N3 | 1-003368 | 4" PIPE SOH STD x 3 1/2" LG (BOE,ROE) | SA-106-B | 2# |
| 19 | 1 | N3 | 1-003368 | 4" PIPE SOH STD x 3 1/2" LG (BOE,ROE) | SA-106-B | 2# |
| 20 | 1 | N3 | 1-000695 | 4" x 90" LR BW ELBOW SOH STD | SA-234-WPB | 9# |
| 21 | 5 | N4,N5,N6,N7 | 1-000895 | 3" x CLASS 150 RFSO FLG | SA-105-N | 50# |
| 22 | 1 | N4 | 1-003363 | 3" PIPE SOH STD x 6 3/4" LG (COE,ROE) | SA-106-B | 5# |
| 23 | 2 | N5,N6 | 1-003363 | 3" PIPE SOH STD x 7 1/2" LG (COE,ROE) | SA-106-B | 10# |
| 24 | 1 | N7A | 1-003363 | 3" PIPE SOH STD x 9'-0" LG (COE,ROE) | SA-106-B | 68# |
| 25 | 1 | N7A | 1-009594 | CALORTECH 5 MW 480V/3PH PIPE INSERT HEATER MODEL: MMT305F3-00X | - | - |
| 26 | 2 | N7A/B | 1-000327 | 3" BW PIPE CAP SOH STD | SA-234-WPB | 6# |
| 27 | 2 | N7A/B | 1-001269 | 3" x CLASS 150 RF FLEX GASKET | 304SS | - |
| 28 | 12 | N7,N8 | 1-002827 | 5/8" DIA x 3 1/2" LG STUD | SA-193-B7M | - |
| 29 | 24 | N7,N8 | 1-001868 | 5/8" DIA NUT | SA-194-2HM | - |
| 30 | 1 | N7B | 1-003363 | 3" PIPE SOH STD x 7'-6" LG (COE,ROE) | SA-106-B | 57# |
| 31 | 1 | N7B | 1-009595 | CALORTECH 4 MW 480V/3PH PIPE INSERT HEATER MODEL: MMT304F3-00X | - | - |
| 32 | 1 | N8 | 1-009596 | CALORTECH 0-100°F REMOTE MOUNT THERMOSTAT MODEL: XTML04481 | - | - |
| 33 | 1 | N8 | 1-000871 | 2" x CLASS 150 RFSO FLG | SA-105-N | 5# |
| 34 | 1 | N8 | 1-001266 | 2" x CLASS 150 RF FLEX GASKET | 304SS | - |
| 35 | 1 | N8 | 1-003367 | 2" PIPE SOH STD x 7" LG (COE,ROE) | SA-106-B | 2# |
| 36 | 1 | N8 | 1-003965 | 2" x CLASS 150 RF BLIND FLG, TAPPED TO 1/2" NPT | SA-105-N | 8# |
| 37 | 2 | N9 | 1-000935 | 8" x CLASS 150 RFSO FLG | SA-105-N | 60# |
| 38 | 1 | N9 | 1-000713 | 8" PIPE SOH STD x 9 1/4" LG (COE,ROE) | SA-106-B | 18# |
| 39 | 2 | N9 | 1-000713 | 8" x 90" LR BW ELBOW SOH STD | SA-234-WPB | 92# |
| 40 | 1 | N9 | 1-001277 | 8" x CLASS 150 RF FLEX GASKET | 304SS | - |
| 41 | 8 | N9 | 1-002843 | 3/4" DIA x 4 1/4" LG STUD | SA-193-B7M | - |
| 42 | 16 | N9 | 1-001872 | 3/4" DIA NUT | SA-194-2HM | - |
| 43 | 1 | N10 | 1-004035 | 8" API THIEF HATCH CONNECTION (SOUR) | - | 15# |
| 44 | 1 | N10 | 1-003018 | 8" ENVIROVAULT 660PT SOUR THIEF HATCH (SET@16oz PRESS,0.4oz VAC) | SA-182-304L | 2# |
| 45 | 2 | C1A/B | 1-008432 | 1/2" x CLASS 3000 x 3" LG FULL COUPLING | 304L | 2# |
| 46 | 2 | C1A/B | 1-008435 | 1/2" DIA HEX PLUG | SA-182-304L | 2# |
| 47 | 1 | C2 | 1-008438 | 1" x CLASS 3000 FULL COUPLING | SA-182-304L | 2# |
| 48 | 1 | C3 | 1-004019 | VACUUM GAUGE ASSEMBLY ABOVE GROUND VERTICAL | SA-182-304L | 6# |
| 49 | 1 | C4 | 1-008433 | 2" x CLASS 3000 x 3" LG FULL CPGLG | SA-182-304L | 1# |
| 50 | 1 | C4 | 1-004940 | HAWKEYE RETAIL LIQUID LEVEL GAUGE (SOUR) | SA-36 | 6# |
| 52 | 3 | C4 | 2-000056 | TAWS: 4" x 1/4" FLATBAR x 6 1/2" LG (TEMPLATE #14) | SA-182-304L | 2# |
| 53 | 2 | C5A/B | 1-008434 | 1 1/4" x CLASS 3000 x 3" LG FULL CPGLG | SA-240-T304L | 2# |
| 54 | 2 | C5A/B | 2-000384 | CABLE CLIP: 2" x 1/4" THK c/w HOLE (TEMPLATE #21) | SA-240-T304L | 2# |
| 55 | 1 | C5A/B | - | HAWKEYE RETAIL CABLE GUIDES | - | - |
| 56 | 1 | M1 | 1-004041 | 24" x 36" MANWAY ASSEMBLY (SOUR) | - | 150# |
| 57 | 2 | SUPPORT | 1-000264 | 3" STAINLESS U-BOLT | 304SS | 3# |
| 58 | 2 | SUPPORT | 1-000060 | SUPPORT: 2" x 1/4" ANGLE x 3 3/8" LG | SA-240-304L | 3# |
| 59 | 2 | SUPPORT | 2-000807 | SUPPORT: 3" x 3/8" THK x 6 1/2" LG c/w SLOT FOR U-BOLT | SA-240-304L | 2# |

BITUM
Welding & Manufacturing Ltd.
8815 37 Street
INNISFALL, AB
CANADA
403-227-7999
1-888-927-4923

CENOVUS ENERGY INC
400 BBL DOUBLE WALL E29 STORAGE TANK
11'-10" DIA x 20'-0" HIGH

DATE: 10/04/10
SHEET: OF 3
DRAWN BY: DDD
PURCHASE ORDER: 12118-P-001
LOCATION: PELICAN LAKE E29
CRN DWG: N/A
APP'D: D1556-1