

GENERAL NOTES:

1. CONC. SEE SET GRADE SURVEY.
2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.
4. INSTRUMENTATION: 2" DIA. 50-100% OF 2000% EFFICIENCY.
5. 1 1/2" DIA. PIPING: 50-100% OF 2000% EFFICIENCY.
6. 1 1/2" DIA. PIPING: 50-100% OF 2000% EFFICIENCY.
7. THE SHOWN PUMP RELIEF VALVE UNDER PUMP.

E-100 INJECTION PUMP:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

E-110 INJECTION PUMP:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

E-120 INJECTION PUMP:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

E-100 DIESEL GENERATOR:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

E-100 GENERATOR:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

E-100 DIESEL GENERATOR:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

CONC. DESIGN DATA:
 1. CONC. SEE SET GRADE SURVEY.
 2. ALL INSTRUMENTS ARE AVAILABLE FOR CHECK OUT.
 3. PUMP AND MOTOR: 1" AND 2" DIA. 50-100% OF 2000% EFFICIENCY.

BILL OF MATERIALS

QTY	DESCRIPTION	UNIT
1	54" OD X 18' LG	LINE
1	1.5 MMBTUHR LINEHEATER	HEATER
1	P & ID (SWEET)	DRAWING

BY	DATE	DATE
DJG	12.20.06	12.20.06
CHK	DJG	01.24.07
APP	DJG	01.24.07

ISSUED FOR CONSTRUCTION

0 ISSUED FOR CONSTRUCTION

DESCRIPTION: ISSUED FOR CONSTRUCTION

REVISIONS: 0 ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS:

LINE SCHEDULE:
 LINE SIZE
 LINE CLASS
 LINE NUMBER
 LINE SERVICE

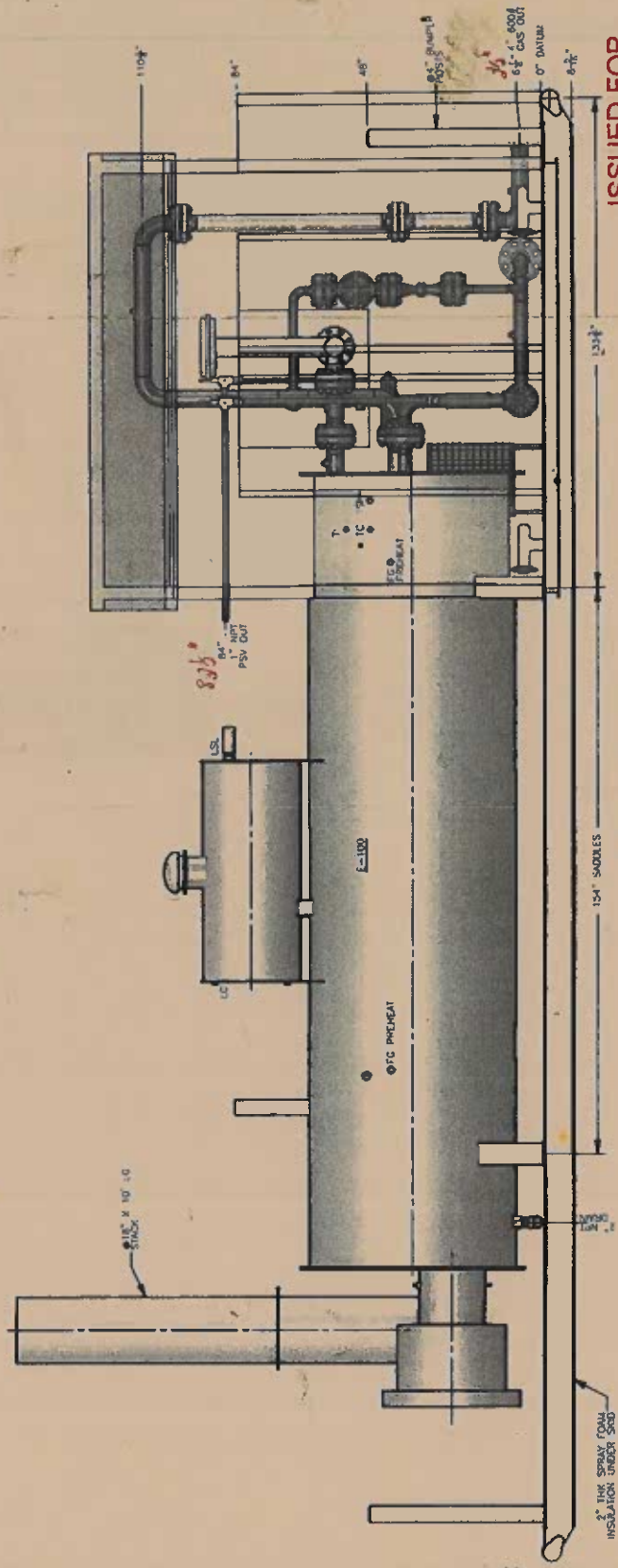
54" OD X 18' LG
 1.5 MMBTUHR LINEHEATER
 P & ID (SWEET)

SILVERADO
 P.O. Box 985
 Red Deer, Alberta T4N 2E8
 Ph: (403) 340-1000
 Fax: (403) 341-0182

CUSTOMER: CANADIAN FOREST OIL LTD.
 WORK ORDER NO: 1000
 SHEET NO: 984A/01

ISSUED FOR CONSTRUCTION
 Date: 01/24/07
 Int: DJG

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ELEVATION VIEW 'A-A'

ISSUED FOR CONSTRUCTION

Init. *AS* Date *Nov 21 1977*

SILVERADO		Customer: CANADIAN FOREST OIL	
DESIGNER	DATE	REV	SHEET
BY	12/1/77	0	2/3
CHKD	12/1/77		
ENGR	12/1/77		
DRW NO.	984E07		
SCALE	AS SHOWN		

54" OD X 18'-0" LG LINEHEATER
GENERAL ARRANGEMENT

BILL OF MATERIALS

ITEM QTY	DESCRIPTION	CUT LENGTH	MATERIAL	PART NO
1	1 1/2" X 1/2" WIDE FLANGE	396"	44W	STWBX18
2	1 1/2" X 1/2" WIDE FLANGE	78 1/2"	44W	STWBX18
3	1 1/2" X 1/2" WIDE FLANGE	396"	44W	STWBX18
4	PIPL. SCH XXH, 4" DIA.	48"	SA-105B	PIA10BXXH1
5	2 PIPL. SCH 40, 3" DIA.	84"	SA-53B/ERW	STP3-STD
6	8 2" X 2" X 1/4"	18 15/16"	44W	STA-25X2X2
7	4 2" X 2" X 1/4"	78 1/2"	44W	STA-25X2X2
8	3 2" X 2" X 1/4"	18 1/2"	44W	STA-25X2X2
9	4 C4" X 5.4# CHANNEL	20 1/2"	44W	SIC4X5.4
10	2 C4" X 5.4# CHANNEL	120"	44W	SIC4X5.4
13	1 3/16" X 5" X 10" CHECKER PLATE		SA-36	STCHK.188X60X120
14	1 3/16" X 5" X 10" CHECKER PLATE		SA-36	STCHK.188X60X120
12	4 3/16" THK X 5" X 7 1/2" LG PLATE	5/16"	SA-36	10000031
15	4 3/16" THK X 3 1/2" LG PLATE		SA-36	1000007B

ISSUED FOR CONSTRUCTION

Date: 5 FEB 05 2007

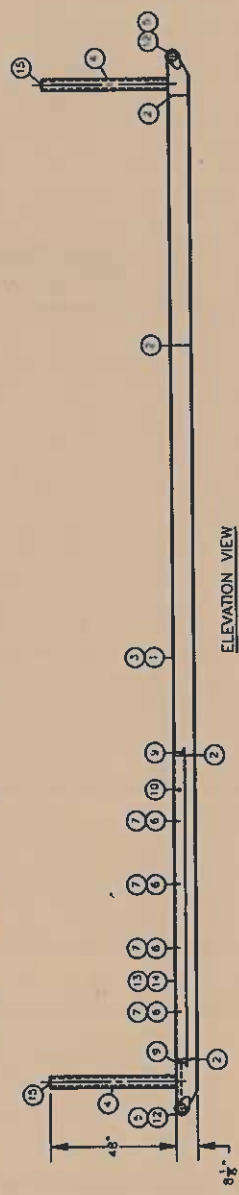
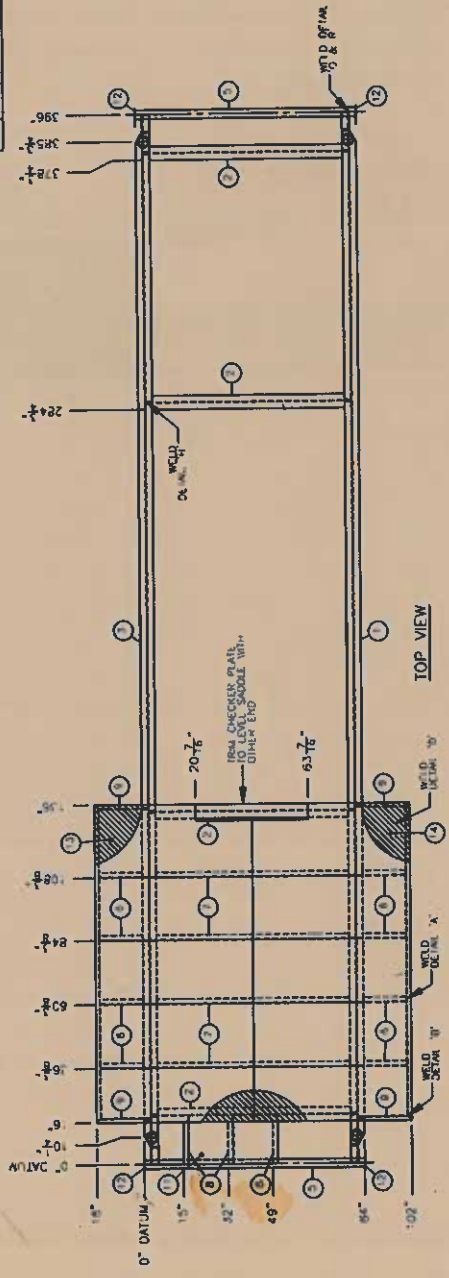
GENERAL NOTES:
 1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 2. ALL WELDS TO BE 1/4" FILLET UNLESS OTHERWISE NOTED.
 3. SANDBLAST & PAINT EXPOSED SURFACES SILVERADO GR.
 4. FINISH INSULATION REQUIRED.
 5. FINAL INSPECTION REQUIRED.
 6. CUT BOTTOM FLANGE AT THE ENDS, 2" LONGER THAN THE TOP FLANGE (SEE WELD DETAIL 'R').



7' X 33' STRUCTURAL SKID
 IN 10' X 10' BUILDING
 LINEHEATER PACKAGE

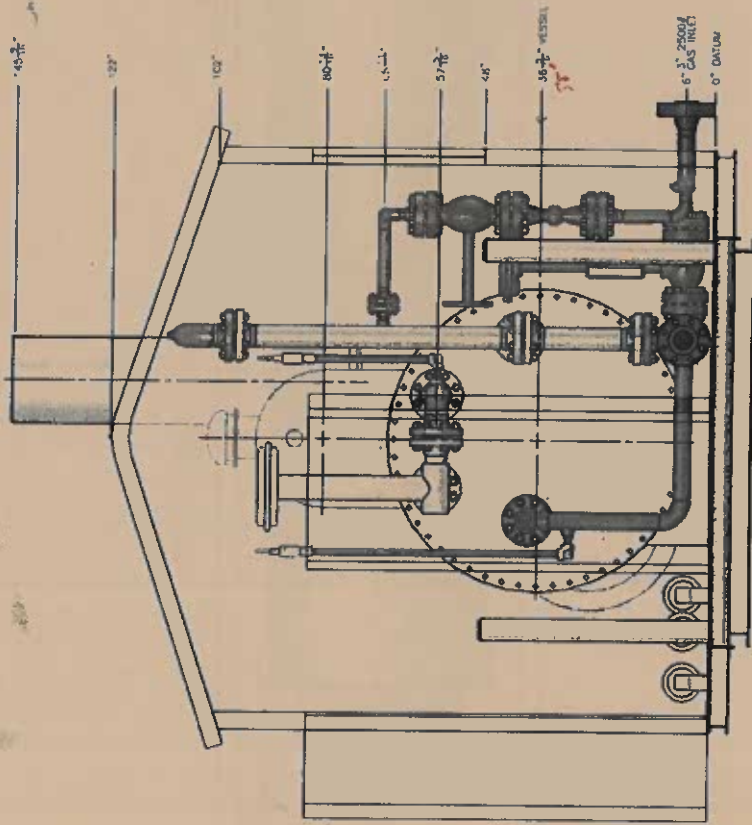
OWN	DATE	Customer	Work Order No
DES	01/24/07	CANADIAN FOREST OIL	1801
CHK	5/14/07	DWG NO:	
ENG APP		894067	
CON APP	5 FEB 05 2007		

ISSUED FOR APPROVAL	DATE	01.19.07
DESCRIPTION	DATE	
REVISIONS		
REV	DESCRIPTION	DATE
A		



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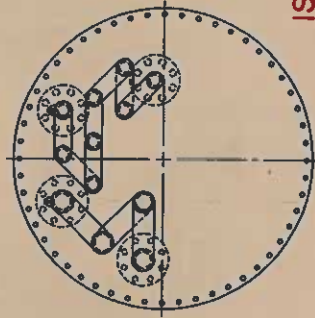
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ELEVATION VIEW 'B-B'

BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MATERIAL	PART NO
1	1	1/8" X 11 3/4" OD BAW GASKET	-	-
2	2	1/8" X 2 1/2" OD BAW GASKET	-	-
3	2	1/8" X 2 1/4" OD X 53 1/2" BAW GASKET	-	-
4	4	6" X 4 1/4" STUDS	SA-193-B7	U75T0.625X4.25
5	40	7/8" X 5 3/4" STUDS	SA-193-B7	E75T0.875X5.75
6	24	1 1/8" X 6 3/4" STUDS	SA-193-B7	075T1.125X6.75
7	40	1" X 6 3/4" STUDS	SA-193-B7	075T1X6.75
8	5	3" 2500# R-26 GASKET	304SS	CAS-R26
9	3	3" 1500# R-35 GASKET	304SS	CAS-R35
10	1	2" 600# PLEX GASKET	304SS	CAS2-3/4/600304
11	5	4" 600# PLEX GASKET	304SS	CAS4-600304
12	1	8" JAYCO 1500# PRESSURE, 407 VACUUM THERM TATCH	-	1-JPH0
13	16	5/8" NUT	SA-194-2H	NUT1.625-2H
14	80	7/8" NUT	SA-194-2H	NUT1.875-2H
15	80	1" NUT	SA-194-2H	NUT1-2H
16	40	1 1/8" NUT	SA-194-2H	NUT1.125-2H



COIL LAYOUT

ISSUED FOR CONSTRUCTION

Init. *AB* Date *March 2/07*

SILVERADO
 CERTIFIED ENERGY EQUIPMENT
 10000 10th Ave S, Suite 100, Calgary, Alberta T2C 1A2
 CANADIAN FOREST OIL
 984E03

DATE	01.18.07
BY	KALAL
CHECK	KALAL
SCALE	1:1
PROJECT NO.	9105
DATE	5/20/07
REV	0
BY	
DATE	3/3

54" OD X 16'-0" LG LINEHEATER
 GENERAL ARRANGEMENT

BILL OF MATERIALS

QTY	DESCRIPTION	MATERIAL	PART NO	HEAD NO.
2	3" 15000 2001 RETURN TUB	SA-309-1/2	17	15000
2	4" 1800 3/160 RETURN TUB	SA-1024	18	1800
3	3" 2001 1807 LG RETURN WELD COLL	SA-309-1/2	19	1807
4	4" 3/160 1807 LG RETURN WELD COLL	SA-309-1/2	20	1807
5	3" 2001 SMLS PIPE X 16'-2-1/4" LG	SA-333-088	21	2001
6	2" 2001 SMLS PIPE X 17'-4-1/8" LG	SA-333-088	22	2001
7	4" 3/160 SMLS PIPE X 15'-1-1/4" LG	SA-1024	23	1500
8	4" 3/160 SMLS PIPE X 17'-5-1/8" LG	SA-1024	24	1700
9	1/2" 1800 INVERTOLET	SA-1024	25	1800
10	2" 1/2" 1800 AXT HEAD PLUG	SA-1024	26	1800
11	1 1/4" X 8'-1/4" CO PLATE	SA-38	27	1000295
12	1 1/4" X 8'-1/4" CO PLATE	SA-38	28	1000297

nameplate

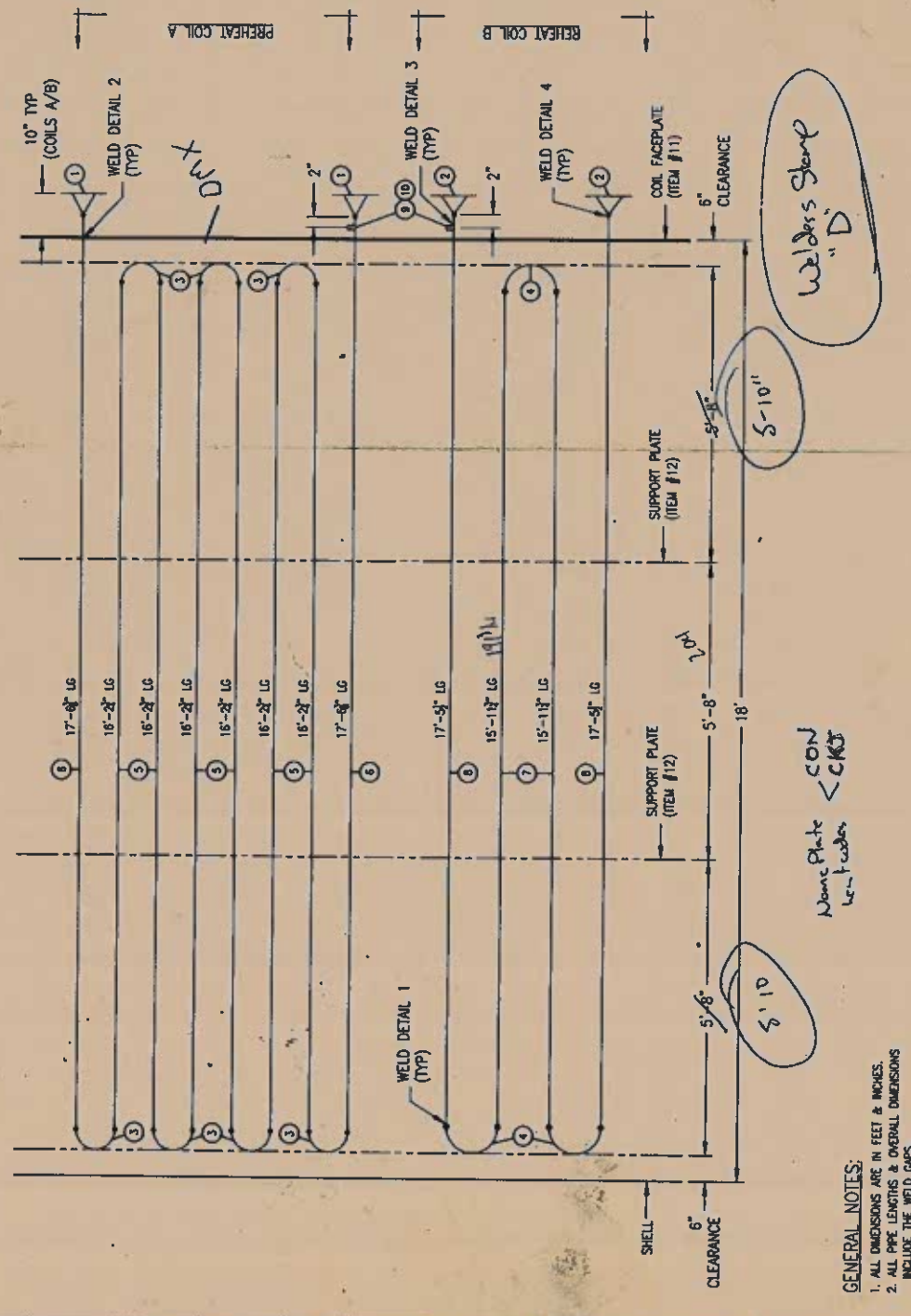
ISSUED FOR CONSTRUCTION
 Date: Jan 31/07
ISSUED FOR CONSTRUCTION

COIL DESIGN DATA

CONSTRUCTION AS PER: ASME B31.3, 2004 EDITION
 QUALITY CONTROL PROGRAM: NDP-1376
 WELDING PROCEDURE REGISTRATION NO.: WP-2265.2
 VOLUME: 3.84 ft³ HEATING SURFACE: 147 ft²
 APPROX. WEIGHT (EMPTY): 3500 lbs
 SERVICE: NORMAL FLUID YEAR BUILT: 2007
 COIL A (Ø 1800 RT/WR PRE-HEAT LINE)
 SERIAL NUMBER: 5-2351A GRN: 9407.213
 MWPP: 3375 PSIG C/A PREHEAT: 1/16"
 HYDROTEST: 5083 PSIG PREHEAT: 50TF
 MGMT: -20TF DESIGN TEMP: 200TF
 IMPACT TEST: EXEMPT PER TABLE 323.2.2 COLUMN A
 RADIOGRAPHY: RANDOM (MSA1.4b) 20% OF TOTAL WELDS
 PWHT: NOT REQUIRED
 COIL B (Ø 1800 RT/WR PRE-HEAT LINE)
 SERIAL NUMBER: 5-2351B GRN: P-9417.213
 MWPP: 1350 PSIG C/A PREHEAT: 1/16"
 HYDROTEST: 2025 PSIG PREHEAT: 50TF
 MGMT: -20TF DESIGN TEMP: 200TF
 IMPACT TEST: EXEMPT PER TABLE 323.2.2 COLUMN A
 RADIOGRAPHY: RANDOM (MSA1.4b) 20% OF TOTAL WELDS
 PWHT: NOT REQUIRED

SILVERADO
 STEEL FABRICATORS
 2001 P.O. Box 205
 Red Deer, Alberta T4H 5B3
 Ph: (403) 340-1800
 Fax: (403) 341-8182

Customer: CANADIAN FOREST OIL
 Work Order No. REV DWG NO. PRICE
 1501 0 984007-CO 1/1



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN FEET & INCHES.
2. ALL PIPE LENGTHS & OVERALL DIMENSIONS INCLUDE THE WELD GAPS.

NO.	DATE	BY	CHK	REVISIONS
1	01/24/07	DJC	MS	ISSUED FOR CONSTRUCTION

REFERENCE DRAWINGS

NO.	DESCRIPTION	DATE	BY
3	COILS REG'D DSN 800-300A (R.2)		
4	COILS REG'D DSN 800-400A (R.1)		

STANDARD TOLERANCES

FABRICATION	WELD ORIENTATION
WPS: S0V4	WPS: S0V4
WPS: S0V4	WPS: S0V4
WPS: S0V4	WPS: S0V4