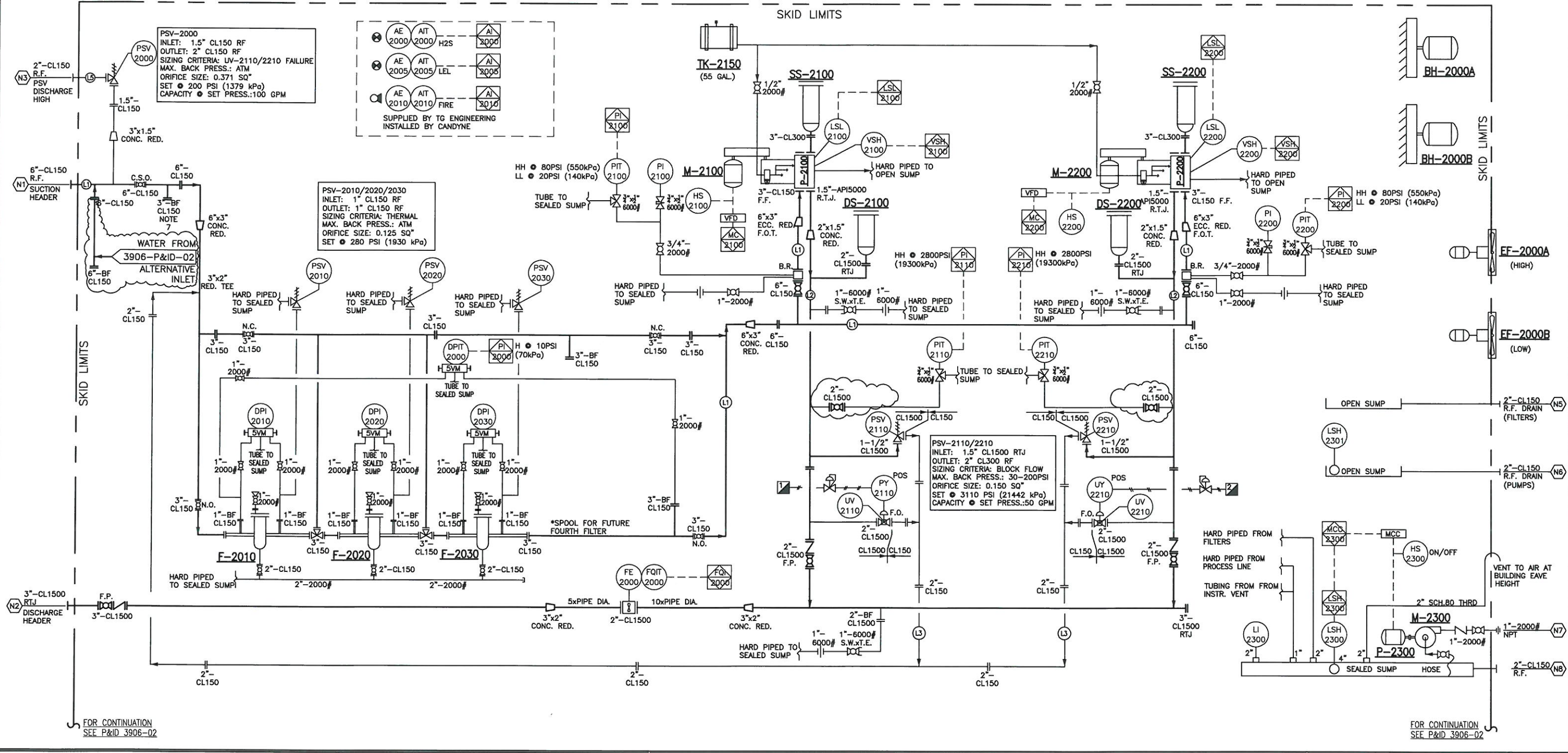


- P-2100/2200**
TRIPLEX PLUNGER PUMP
MAKE: WEATHERFORD
MODEL: W130M
SIZE: 130 HP @ 450 RPM
SUCTION: 3" CL150 F.F.
DISCHARGE: 1.5" API5000 R.T.J.
PLUNGER SIZE: 1.875"
MAWP: 3,110 PSIG (21442 kPa)
- M-2100/2200**
ELECTRIC MOTOR (PLUNGER PUMP)
MAKE: TECO-WESTINGHOUSE
SIZE: 100 HP @ 1,200 RPM
480V/60Hz/3 PHASE
FRAME: 444T
CLASS 1 DIV 2
INVERT DUTY
- P-2300/M-2300**
SUMP PUMP
MAKE: MONARCH
MODEL: MBSE-75LPJL500
MOTOR: 3/4 HP
115/230V/1 PH/60Hz
CONNECTION: 1-1/4" NPT
- SS-2100/2200**
SUCTION STABILIZER
MAKE: STATUS FLOW
MODEL: SFTSC700F300N
SIZE: 300 CU. IN
CONNECTION: 3" CL300 R.F.
MAWP: 700 PSI (4826 kPa)
CRN: AB
- DS-2100/2200**
DISCHARGE STABILIZER
MAKE: STATUS FLOW
MODEL: SFTDC360F300N
SIZE: 300 CU. IN
CONNECTION: 2" CL1500 R.T.J.
MAWP: 3600 PSI (24821 kPa)
CRN: AB
- F-2100/2020/2030**
FILTER VESSELS
MAKE: ESS
MODEL: B03-L2-3F-CS-8
INLET/OUTLET: 3" CL150 R.F.
MAWP: 280 PSI (1930 kPa)
CRN: AB
- TK-2150**
DAY TANK
MAKE: PROGRESSIVE
SIZE: 55 GAL
C/W SIGHT GAUGE
- BH-2000A/B**
UNIT HEATER
MAKE: RUFFNECK
MODEL: FX5-480360-150-WT
SIZE: 15 KW
- EF-2000A/B**
MODEL: DAYTON 12"
12 AIR CHANGES/HOUR
1/4 HP
120V/1 PHASE/60 Hz
CLASS 1, DIV. 1



NOTES: 1. ALL TUBING TO BE 316 SS SEAMLESS TUBING & FITTINGS TO BE SWAGelok UNLESS REQUESTED OTHERWISE. 2. ALL INSTRUMENTATION COMPONENTS TO BE STAINLESS STEEL UNLESS INDICATED OTHERWISE. 3. ALL CONTROL/SHUTDOWN LOGIC IS TO BE SETUP BY THE CLIENT. 4. UNLESS NOTED OTHERWISE IT IS ASSUMED THAT VESSEL OVER PRESSURE PROTECTION HAS BEEN INCORPORATED IN THE CLIENT'S OPERATING PROCEDURE. 5. ALL PIPING IS DESIGNED TO ASME B31.3 6. SHOULD CHARGE PUMPS BE INSTALLED, CANDYNE RECOMMENDS THAT L3 (RECYCLE LINE) BE RE-ROUTED BACK TO SUCTION TANK OR POP TANK. (I.E. UPSTREAM OF FUTURE CHARGE PUMPS). 7. FUTURE CHARGE PUMP TIE IN.	REVISION SYMBOL =	REVISIONS: <table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DWN</th> <th>CHK</th> <th>APP</th> </tr> </thead> <tbody> <tr><td>2</td><td>2012.11.03</td><td>IFC</td><td>A.S.</td><td>G.P.</td><td>-</td></tr> <tr><td>3</td><td>2012.11.05</td><td>IFC</td><td>A.S.</td><td>G.P.</td><td>-</td></tr> <tr><td>4</td><td>2012.11.23</td><td>IFC</td><td>A.S.</td><td>L.F.</td><td>-</td></tr> <tr><td>5</td><td>2012.12.19</td><td>IFC</td><td>A.S.</td><td>L.F.</td><td>-</td></tr> <tr><td>6</td><td>2013.06.19</td><td>IFC: CHANGE ORDER FOR REWORK</td><td>A.S.</td><td>J.K.</td><td>-</td></tr> <tr><td>7</td><td>2013.06.24</td><td>IFC: CHANGE ORDER FOR REWORK</td><td>A.S.</td><td>J.K.</td><td>-</td></tr> <tr><td>8</td><td>2013.06.25</td><td>IFC: ADDED PI, VENT AND DRAIN VALVES</td><td>A.S.</td><td>J.K.</td><td>-</td></tr> </tbody> </table>	REV	DATE	DESCRIPTION	DWN	CHK	APP	2	2012.11.03	IFC	A.S.	G.P.	-	3	2012.11.05	IFC	A.S.	G.P.	-	4	2012.11.23	IFC	A.S.	L.F.	-	5	2012.12.19	IFC	A.S.	L.F.	-	6	2013.06.19	IFC: CHANGE ORDER FOR REWORK	A.S.	J.K.	-	7	2013.06.24	IFC: CHANGE ORDER FOR REWORK	A.S.	J.K.	-	8	2013.06.25	IFC: ADDED PI, VENT AND DRAIN VALVES	A.S.	J.K.	-	APPROVALS: <p style="text-align: center;">APPROVED FOR CONSTRUCTION</p> <p>DRAWINGS SHALL NOT BE USED FOR FABRICATION UNLESS THE THIS STAMP HAS BEEN SIGNED AND DATED BY CANDYNE PERSONNEL WORK COMPLETED WITHOUT THIS APPROVAL IS AT THE RISK AND EXPENSE OF THE FABRICATOR. REFER TO NOTES BELOW.</p> <p><input checked="" type="checkbox"/> APPROVED - PROCEED WITH CONSTRUCTION <input type="checkbox"/> APPROVED AS NOTED - PROCEED WITH CONSTRUCTION</p> <p><i>[Signature]</i> 2013.07.03 SIGNATURE DATE</p>	<p style="text-align: center;">CanDyne Pump Services Inc.</p> <p>CLIENT: PENNWEST EXPLORATION</p> <p>PACKAGE: PROJECT #3906 WATER INJECTION PUMP PACKAGE PROCESS & INSTRUMENTATION DIAGRAM</p> <p>DRAWN: DATE: DESIGN: SCALE: REV: 8 A.F. 2012.06.22 R.M. NTS</p> <p>DRAWING NUMBER: 3906-01</p>
		REV	DATE	DESCRIPTION	DWN	CHK	APP																																													
2	2012.11.03	IFC	A.S.	G.P.	-																																															
3	2012.11.05	IFC	A.S.	G.P.	-																																															
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8	2013.06.25	IFC: ADDED PI, VENT AND DRAIN VALVES	A.S.	J.K.	-																																															
<p>FOR CONTINUATION SEE P&ID 3906-02</p>		<p>FOR CONTINUATION SEE P&ID 3906-02</p>																																																		

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K-2500/2510
 TWO STAGE AIR COMPRESSORS
 MAKE: EAGLE
 MODEL: HPV05A
 SPEED: 990 RPM
 CAPACITY: 18 CFM @ 100 PSI

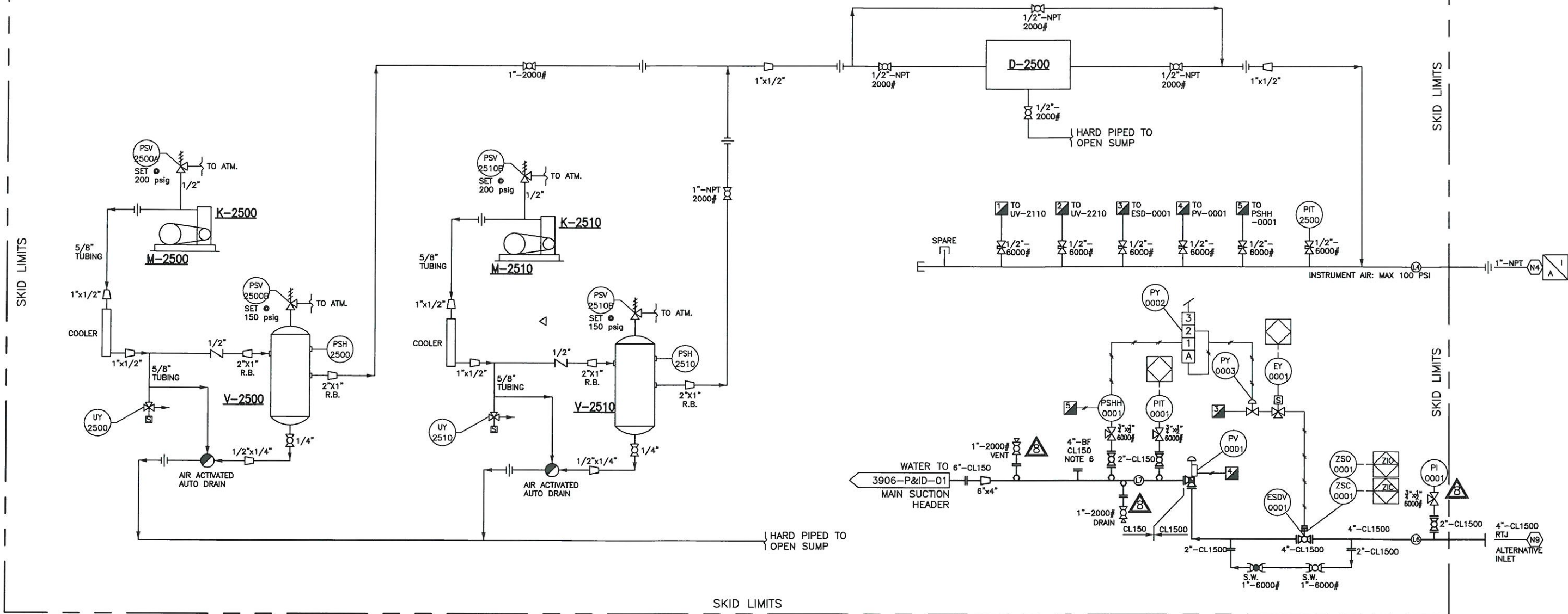
M-2500/2510
 ELECTRIC MOTOR (COMPRESSOR)
 HORSEPOWER: 5.0 HP
 SPEED: 1800 RPM
 ENCLOSURE: TEXP
 FRAME SIZE: 184T
 POWER: 230/460V, 3PH, 60Hz

V-2500/2510
 WET AIR RECEIVER
 DESCRIPTION: VERTICAL AIR RECEIVER
 SIZE: 24" DIA. x 48" H
 DESIGN TEMPERATURE: 450 F
 DESIGN PRESSURE: 200 PSIG

D-2500
 AIR DRYER
 MAKE: EAGLE
 CAPACITY: 40 SCFM
 INLET TEMPERATURE: 100 F
 OUTLET DEW: -40 F
 INLET PRESSURE: 100 PSIG

FOR CONTINUATION
 SEE P&ID 3906-01

FOR CONTINUATION
 SEE P&ID 3906-01



NOTES:

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- ALL PIPING IS DESIGNED TO ASME B31.3
- FUTURE CHARGE PUMP TIE IN.

REVISION SYMBOL =

REVISIONS:

REV	DATE	DESCRIPTION	DWN	CHK	APP
2	2012.11.29	IFC	A.S.	G.P.	-
3	2012.12.19	IFC	A.S.	L.F.	-
4	2013.15.13	IFC	A.S.	L.F.	-
5	2013.06.19	IFC	A.S.	G.P.	-
6	2013.06.20	IFC: CHANGE ORDER FOR REWORK	A.S.	J.K.	-
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- APPROVED - PROCEED WITH CONSTRUCTION
- APPROVED AS NOTED - PROCEED WITH CONSTRUCTION

AS SIGNATURE 2013.07.07 DATE

CanDyne
 Pump Services Inc.

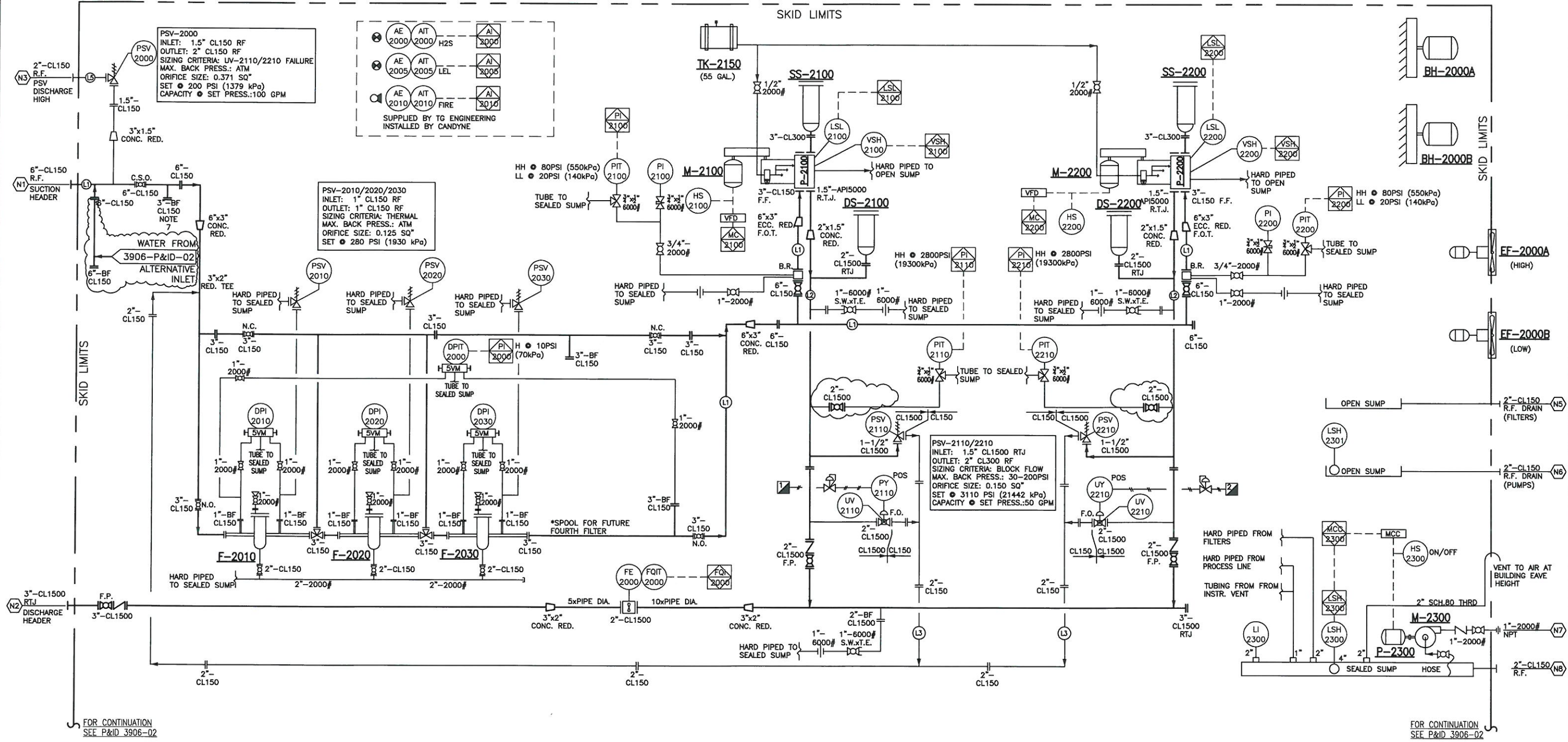
CLIENT: PENNWEST EXPLORATION

PACKAGE: PROJECT #3906
 WATER INJECTION PUMP PACKAGE
 PROCESS & INSTRUMENTATION DIAGRAM

DRAWN: A.S. DATE: 2012.09.20 DESIGN: G.P. SCALE: NTS REV: 8

DRAWING NUMBER: 3906-02

- P-2100/2200**
TRIPLEX PLUNGER PUMP
MAKE: WEATHERFORD
MODEL: W130M
SIZE: 130 HP @ 450 RPM
SUCTION: 3" CL150 F.F.
DISCHARGE: 1.5" API5000 R.T.J.
PLUNGER SIZE: 1.875"
MAWP: 3,110 PSIG (21442 kPa)
- M-2100/2200**
ELECTRIC MOTOR (PLUNGER PUMP)
MAKE: TECO-WESTINGHOUSE
SIZE: 100 HP @ 1,200 RPM
480V/60Hz/3 PHASE
FRAME: 444T
CLASS 1 DIV 2
INVERT DUTY
- P-2300/M-2300**
SUMP PUMP
MAKE: MONARCH
MODEL: MBSE-75LPJL500
MOTOR: 3/4 HP
115/230V/1 PH/60Hz
CONNECTION: 1-1/4" NPT
- SS-2100/2200**
SUCTION STABILIZER
MAKE: STATUS FLOW
MODEL: SFTSC700F300N
SIZE: 300 CU. IN
CONNECTION: 3" CL300 R.F.
MAWP: 700 PSI (4826 kPa)
CRN: AB
- DS-2100/2200**
DISCHARGE STABILIZER
MAKE: STATUS FLOW
MODEL: SFTDC360F300N
SIZE: 300 CU. IN
CONNECTION: 2" CL1500 R.T.J.
MAWP: 3600 PSI (24821 kPa)
CRN: AB
- F-2100/2020/2030**
FILTER VESSELS
MAKE: ESS
MODEL: B03-L2-3F-CS-8
INLET/OUTLET: 3" CL150 R.F.
MAWP: 280 PSI (1930 kPa)
CRN: AB
- TK-2150**
DAY TANK
MAKE: PROGRESSIVE
SIZE: 55 GAL
C/W SIGHT GAUGE
- BH-2000A/B**
UNIT HEATER
MAKE: RUFFNECK
MODEL: FX5-480360-150-WT
SIZE: 15 KW
- EF-2000A/B**
MODEL: DAYTON 12"
12 AIR CHANGES/HOUR
1/4 HP
120V/1 PHASE/60 Hz
CLASS 1, DIV. 1



- NOTES:**
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 - FUTURE CHARGE PUMP TIE IN.

REVISIONS:

REV	DATE	DESCRIPTION	DWN	CHK	APP
2	2012.11.03	IFC	A.S.	G.P.	-
3	2012.11.05	IFC	A.S.	G.P.	-
4	2012.11.23	IFC	A.S.	L.F.	-
5	2012.12.19	IFC	A.S.	L.F.	-
6	2013.06.19	IFC: CHANGE ORDER FOR REWORK	A.S.	J.K.	-
7	2013.06.24	IFC: CHANGE ORDER FOR REWORK	A.S.	J.K.	-
8	2013.06.25	IFC: ADDED PI, VENT AND DRAIN VALVES	A.S.	J.K.	-

REVISION SYMBOL =

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APPROVED - PROCEED WITH CONSTRUCTION
 APPROVED AS NOTED - PROCEED WITH CONSTRUCTION

[Signature] 2013.07.03
SIGNATURE DATE

CanDyne
Pump Services Inc.

CLIENT: **PENNWEST EXPLORATION**

PACKAGE: **PROJECT #3906
WATER INJECTION PUMP PACKAGE
PROCESS & INSTRUMENTATION DIAGRAM**

DRAWN: DATE: DESIGN: SCALE: REV: 8
A.F. 2012.06.22 R.M. NTS

DRAWING NUMBER: **3906-01**

LINE LIST																							
CLIENT PROJECT NO.: 3906				CLIENT: PENNWEST EXPLORATION				CUSTOMER PO/AFE NO.: TGE-A12380117-001				ENGINEERING FIRM: TG ENGINEERING INC.				SKID LOCATION: SLAVE POINT				LSD: 08-02-088-12 W5M			
LINE NO.	PIPE SPEC.	PIPE SIZE (in)	DESCRIPTION		PRESSURE (KPa)			TEMPERATURE (°C)		C.A (mm)	PIPE SCH.	X-RAY (%)	INT. COAT Y/N	MATL.	ANSI CLASS	INSULATION		SERVICE	FLUID	POST WELD TREATMENTS	TRACING	REFERENCE P&ID	COMMENTS
			FROM	TO	DESIGN	OPERATING	HYDRO TEST	DESIGN	OPERATING							TYPE	THK.						
L1	AS (REV:1)	6"/3"	SKID EDGE	P-2100/2200 / PSV-2000	1,965	1,034	2,948	-29 TO 38	20	1.6	40	100	Y	A106B	CL150	-	-	SOUR	WATER	Y	-	3906-01	NOTE-2
L2	ES (REV:1)	3"/2"	P-2100/2200	SKID EDGE / PSV & UV-2110/2210	25,545	16,500	38,318	-29 TO 38	20	1.6	160	100	Y	A106B	CL1500	-	-	SOUR	WATER	Y	-	3906-01	NOTE-1
L3	AS (REV:1)	2"	PSV & UV-2110/2210	L1	1,965	1,034	2,948	-29 TO 38	20	1.6	40	100	Y	A106B	CL150	-	-	SOUR	WATER	Y	-	3906-01	NOTE-2
L4	AS (REV:1)	1"	I/A	SKID EDGE	1,965	690	758 (NOTE 4)	-29 TO 38	20	1.6	80	N/A	N	A106B	CL150	-	-	SWEET	I/A	N	-	3906-01/02	AIR SERVICE
L5	AS (REV:1)	2"	PSV-2000	SKID EDGE	1,965	1,034	2,948	-29 TO 38	20	1.6	40	100	Y	A106B	CL150	-	-	SOUR	WATER	Y	-	3906-01	NOTE-2
L6	ES (REV:1)	4"	SKID EDGE	PV-0001	25,545	16,500	38,318	-29 TO 38	20	1.6	160	100	Y	A333 GR. 6	CL1500	-	-	SOUR	WATER	Y	-	3906-01	NOTE-1
L7	AS (REV:1)	6"/4"	PV-0001	L1	1,965	1,034	2,948	-29 TO 38	20	1.6	40	100	Y	A106B	CL150	-	-	SOUR	WATER	Y	-	3906-01	NOTE-2
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

3
3
3
3

NOTES:

- MAGNETIC PARTICLE 100% OF FILLET WELDS
- MAGNETIC PARTICLE 10% OF FILLET WELDS
- PIPING SPECIFICATIONS, REFER TO PENNWEST EXPLORATION PIPING SPECIFICATIONS REV 1.
- PNEUMATIC TEST.

REVISION SYMBOL = 

REVISIONS:

REV	DATE	DESCRIPTION	DWN	CHK	APP
0	10.16.2012	IFC	AS	GP	-
1	11.02.2012	IFC	AS	GP	-
2	12.19.2012	IFC	AS	LF	-
3	08.19.2013	IFC: CHANGE ORDER FOR REWORK	AS	JK	-

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 APPROVED AS NOTED - PROCEED WITH CONSTRUCTION

 2013.07.03
 SIGNATURE DATE

CanDyne
 Pump Services Inc.

CLIENT: PENNWEST EXPLORATION
 PACKAGE: PROJECT #3906
 WATER INJECTION PUMP PACKAGE
 LINE LIST

DRAWN: A.S. DATE: 2012.09.06 DESIGN: G.P. SCALE: NTS REV: 3

DRAWING NUMBER: 3906-03