

HUSKY OIL OPERATIONS LTD.

PHASE 1 ESA

Location: 01-18-017-18 W4M
(Sweet Gas Plant)
Husky Armada

Prepared for:

HUSKY OIL OPERATIONS LTD.
Calgary, AB

Prepared by:



ALLIANCE ENERGY SERVICES LTD.
Environmental Division
Calgary, AB

May 27, 2008



**Location: 01-18-017-18 W4M
Phase 1 ESA**

Prepared for:

**Meridith Ball, P. Ag.
Area Reclamation Coordinator
Husky Oil Operations Ltd.
Box 6525, Station D
Calgary, AB, T2P 3G7**

Prepared by:

**Alliance Energy Services Ltd.
Environmental Division
1840, 840 – 7th Avenue SW
Calgary, AB, T2P 0Z9**

A handwritten signature in blue ink, appearing to read "Nora Toth", is written over a horizontal line.

**Nora Toth, B.A.
Environmental Project Coordinator**

A handwritten signature in black ink, appearing to read "Julia Byrkart", is written over a horizontal line.

**Julia Byrkart, B.Sc., P.Biol.
Project Coordinator**

EXECUTIVE SUMMARY

Alliance Energy Services Ltd. (Alliance) was contracted by Meridith Ball of Husky Oil Operations Ltd. to conduct a Phase 1 ESA on the Husky Armada (01-18-017-18 W4M). As part of the Phase 1 ESA, Alliance reviewed the pertinent information available in various sources. This information was utilized to complete sections A through G with the exception of sections C and question 1 of section E of the Phase I Environmental Site Assessment of the attached Alberta Environment's *Wellsite Reclamation Certificate Application* (Alberta Environment, 2007).

The Husky Armada was a sweet gas plant surveyed in 1979 and was built sometime between 1981 and 1982. During the review of the available information the following facilities were noted on-site: a glycol and condensate separator, as well as numerous above and underground tanks. Other facilities were noted on the location and an equipment list was created to summarize all equipment historically and currently on-site. Please refer to Appendix E for the summary of the facilities equipment list and for the facilities schematic flow diagrams.

Based on the information which was reviewed as part of the Phase 1 ESA, Alliance recommends that a Phase 2 ESA be conducted to assess all the facility areas on the Husky Armada location.

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LIST OF APPENDICES

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- Appendix B: Accucard/AbaData Information
- Appendix C: Survey Plan/EUB Pipeline Map
- Appendix D: Air Photos
- Appendix E: Facilities Schematic Flow Diagram and Facilities Equipment List
- Appendix F: Infrastructure Documentation
- Appendix G: Spill Information
- Appendix H: Landowner/Occupant Information

1.0 OBJECTIVES AND SCOPE OF WORK

1.1 OBJECTIVES

The intent of this Phase I ESA was to review all available sources of information in order to complete the following objectives:

- Complete sections A through G with the exception of sections C and question 1 of section E of the Phase I Environmental Site Assessment.
- Compliance Option 1 or 2- Drilling Waste Disposal Assessment Checklist and relevant calculations if a well was drilled on location.
- Determine what infrastructure was associated with the well site and/or facility site under review.
- Determine any area with potential environmental impact.

1.2 SCOPE OF WORK

The scope of work established for this project involved the following:

- Reviewed AccuCard, AccuMap and/or AbaData information.
- Reviewed all available reclamation and well files.
- Reviewed microfiche files when applicable.
- Completed an air photo review for pits, infrastructure and potential impact areas.
- Completed an Energy Resources Conservation Board FIS Release Incident report search.
- Reviewed Wastetrac Systems for available drilling waste disposal documentation when applicable.

2.0 LIMITATIONS

This report was prepared by Alliance Energy Services Ltd. (Alliance) based on its professional judgment and experience and in accordance with generally accepted professional standards of care and skill for the preparation of reports of this nature. All findings and conclusions contained in this report are based on the information and circumstances existing at the time of preparation of this report, including data and information provided by third parties. Unless otherwise indicated in this report, no attempt has been made to verify information provided by third parties.

This report is intended for the sole use of the addressee. The reliance, use or making of decisions by a third party, based on this report, is strictly prohibited. Alliance accepts no responsibility or liability to any third party arising out of the use of, or reliance on, this report by any party other than the addressee.

No warranty, express or implied, is made in respect of this report other than as expressly provided in this Section 2.0.

3.0 REFERENCES

Abacus Datagraphics Ltd. AbaData Version 1.14. (1992). Reviewed on April 17 2008.
<http://www.abacusdatagraphics.com/AbaData/mgMainLogin.asp>

Alberta Environment. Wellsite Reclamation Certificate Application. January 2007.
<http://environment.alberta.ca/1.html>

Husky Oil Operations Ltd. Surface File (S64484). Reviewed on May 2, 2008.



Appendix A

PHASE 1 Environmental Site Assessment**A. Drilling Information**

1. Drilling date: Not applicable
2. Well depth: Not applicable
3. Has this site been previously certified and the certificate cancelled? ☐ Yes ☒ No
 If Yes, provide details of work completed in the Detailed Site Assessment Report.
 If no work has been done, explain why. _____

4. Is this site a re-entry? ☐ Yes ☒ No
 If yes, has this site been previously certified? ☐ Yes ☐ No, If yes, Certificate No. _____
5. Drilling mud (type, volume): Not applicable
 Drilling waste disposal method: Not applicable
 Sump location: ☐ On-Lease ☐ Remote ☐ None
 Remote sump location: Not applicable
 Disposal location (s): Not applicable
6. Drilling Waste Compliance Option used and attached to Schedule 3 : ☐ Option 1 ☐ Option 2 ☐ Option 3
7. Has this site been used for drilling waste disposal more than once? ☐ Yes ☒ No ☐ Unknown
 Details: _____

B. Production/Storage & Environmental Information

1. Infrastructure associated with the location historical and/or current: (tanks, pipeline, process skids, access roads etc.)
For infrastructure associated with the location please refer to the Equipment List attached in Appendix E.
2. Flare pits (drilling, production) ☐ Yes ☒ No ☐ Unknown **Details/Location:** _____
3. Storage tanks (☒ below or ☒ above ground) ☒ Yes ☐ No ☐ Unknown
 Number of tanks: **Numerous tanks were found on-site. Please refer to Appendix E for more details.**
 Location: _____
 Capacity: _____
4. Underground facilities removed (storage tanks, pipelines, etc.)?
☐ Yes ☒ No If No, explain The site is still active. ☐ Not Applicable – No underground facilities at site.
5. How was fluid at producing wells, disposal wells, and/or battery sites shipped to/from the location? ☐ N/A
 Fluid piped ☒ to the site, Fluid piped ☒ from the site.
 Fluid trucked ☐ to the sit Fluid trucked ☐ from the site.
6. Other (waste storage/handling/chemical storage, buried pits, landfills etc.): _____
7. Spills/Releases/Complaints: ☒ Yes ☐ No ☐ Unknown **Date:** January 14, 1988
 Reference or Incident #: 19880082
 Type: **Complaint: odour concerns were documented for the 01-18-017-18 W4M location, however the source of the odour was unknown therefore it was unclear if the filed complaint was related to the Husky Armada sweet gas plant.**
 Product & Volume (Spilled & Recovered): N/A
8. Have there been any previous ESAs conducted? ☐ Yes ☒ No (attach additional sheets as necessary)
 Consultant: _____
 Report Title: _____
 Report Date: _____
 Report Findings: _____

C. Phase 1 Site Visit- To be completed at a later date

1. Date (m/d/y): _____
2. Assessor: _____
3. Surrounding land use:
N: _____ S: _____ E: _____ W: _____
4. Topography: _____
5. Vegetation: _____
6. Proximity to (fill in distance to all that fall within 300 metres of this site):
Residence _____; Water well _____; Surface waterbody (e.g., dugout, stream, river): _____
7. Equipment or tankage present (or visual signs of former facilities): ☐ Yes ☐ No
What was observed?: _____
8. Visual signs of open or potentially buried earthen pits: ☐ Yes ☐ No
What was observed?: _____
9. Evidence of past spills (includes cumulative releases, well centre impacts, salt tolerant vegetation, etc.): ☐ Yes ☐ No
What was observed?: _____
10. Adjacent land affected by operations on the site? ☐ Yes ☐ No
What was observed?: _____
11. Vegetation stress apparent: ☐ Yes ☐ No
Details (location, evidence): _____
12. Does site visit information conflict with specific file or the imagery review Information: ☐ Yes ☐ No
If YES, explain: _____

D. AERIAL/SATELLITE IMAGERY REVIEW

Photographs of the site in aerial, satellite or other media format are required. Scales such as 1:5000 or 1:7500 should be used to show detail.

Producing wells and batteries: one pre-disturbance; one post-disturbance; one photograph for every 2 to 3 year interval while the site was active.

Dry and abandoned wells: one photograph of the active site, if available, is required. If active site photographs are not available, photographs of the pre and post disturbance are required.

Sites with above ground facilities and/or spills: photos of the site before, during (if available), and after the spill cleanup or facility removal are required.

Review date: May 27, 2008

Reviewed by: Nora Toth

Photo ID: Roll: 1054, Print: 42

Year: April 5, 1970 Scale: 1:7,920

Evidence of former infrastructure or areas of potential concern:

Pre-disturbance photograph.

The lease is not visible within the surrounding area.

Photo ID: Roll: AS 3044, Print: 178

Year: October 12, 1977 Scale: 1:5,000

Evidence of former infrastructure or areas of potential concern:

Pre-disturbance photograph.

The lease was not visible within the surrounding area.

Photo ID: Roll: 2437, Print: 250

Year: August 25, 1981 Scale: 1:7,500

Evidence of former infrastructure or areas of potential concern:

The lease was visible within the area. Facilities were noted in the following areas: central to the lease, towards the northwest corner, and towards the southwest.

Photo ID: Roll: 3152, Print: 78

Year: May 16, 1985 Scale: 1:5,000

Evidence of former infrastructure or areas of potential concern:

The lease was visible within the area. Facilities were noted in the following areas: central to the lease, on the south side, in the northwest corner, as well as on the northeast side.

Photo ID: Roll: 4178, Print: 217

Year: August 4, 1991 Scale: 1:7,500

Evidence of former infrastructure or areas of potential concern:

The lease was visible within the area. Facilities were noted in the following areas: central to the lease, on the south side, in the northwest corner, as well as on the northeast side.

Photo ID: Roll: 5008, Print: 243

Year: April 24, 1999 Scale: 1:7,500

Evidence of former infrastructure or areas of potential concern:

The lease was visible within the area. Facilities were noted in the following areas: central to the lease, in the southwest corner, in the northwest corner, as well as on the northeast side.

E. INTERVIEWS- (To be completed at a later date)

1. Private Land: Have you performed a site visit in the presence of the landowner/occupant? ☐ Yes ☐ No

Public Land: Have you performed a site visit in the presence of the occupant? ☐ Yes ☐ No

Public Land: Have all disposition conditions been met? ☐ Yes ☐ No

Date of site visit(s): _____

Interviews- (To be completed at a later date)

Details of Interviewee's Comments (*request information on previous complaints, former facilities, presence and details of spills, pits, waste storage/handling, and vegetation control, etc.*)

2. Landowner Interview: Date: _____ Interviewed By: _____

3. Occupant Interview: Date: _____ Interviewed By: _____

4. Operator Interview: Date: _____ Interviewed By: _____

Position: _____

Additional Notes / Comments / Information

F. CONCLUSIONS AND RECOMMENDATIONS

1. Phase 1 ESA information is sufficient to form a conclusion about contamination? ☒ Yes ☐ No

If YES, go to Question 2

If NO, indicate what follow up actions that will be taken to gain sufficient information (e.g., Phase 2 ESA)

Type of investigation: _____

Did this investigation indicate that contamination was present? ☐ Yes ☐ No

2. Phase 1 ESA showed contamination is likely present? ☒ Yes ☐ No

If YES, indicate what follow-up work will be done on the site (e.g., Phase 2 ESA, remediation work):

Details (type of investigation, date):

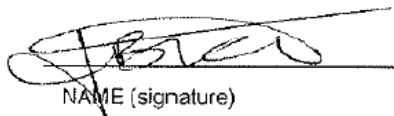
The Husky Armada was a sweet gas plant surveyed in 1979 and was built sometime between 1981 and 1982. During the review of the available information the following facilities were noted on-site: a glycol and condensate separator, as well as numerous above and underground tanks. Other facilities were noted on the location and an equipment list was created to summarize all equipment historically and currently on-site. Please refer to Appendix

E for the summary of the facilities equipment list and for the facilities schematic flow diagrams.

Based on the information which was reviewed as part of the Phase 1 ESA, Alliance recommends that a Phase 2 ESA be conducted to assess all the facility areas on the Husky Armada location

G. DECLARATION

I Julia Burkart of Alliance Energy Services Ltd. certify that, to the best of my knowledge, all of the aforementioned information is accurate. This Phase 1 Environmental Site Assessment (ESA) was conducted on behalf of Husky Oil Operations Limited, for the above noted location. All the pertinent information gathered during the Phase 1 ESA has been provided within this report.


NAME (signature)

Reclamation Consultant

POSITION

June 4, 2008

DATE



Appendix B

Gas processing plant [as of November 12, 2007]

Govt code: 1480
 Name: HUSKY ARMADA
 Address: 5810 62 Street
 Taber, AB T1G 1Y7
 Phone: (403) 223-4851
 Operator: HUSKY OIL OPERATIONS LIMITED (0R46)
 Address: 707 - 8 AVENUE SW
 CALGARY, AB T2P 1H5
 Location: 01-18-017-18W4
 Remarks: n/a
 Field: EYREMORE, ARMADA, MAJORVILLE
 Closest Community: Brooks, Lomond
 Co-Owners: HUSKY ENERGY 42.8%, R3 GROUP OF COMPANIES 57.2%
 Manager/Contact: Eric Stang
 Build Date/Cost: 1984, \$1,600,000
 Major Mods: 1997 Added Compression; 2003 Added a Compressor
 Build Contractor: Flint
 Maint. Contractor: Do own
 Licence Requirements: Yes
 Custom Process: Yes
 Emerg. Response Plan: Yes
 Turnaround: 2007, 2004
 Processes Used: Refrigeration
 Spec. Interest Grps: A.E.U.B., Alberta Environment, Area S Oil Spill
 Co-op, Brooks and District Fish and Game
 Association, Ducks Unlimited, Preservation of
 Agriculture and Living Space Society
 Inlet Pressure: 689.0 kPaa to 1654.0 kPaa
 Discharge Pressure: 6481.0 kPaa to 6894.0 kPaa
 Fld Served/Reserves: Anglo 139.0 E6m3; Armada 871.0 E6m3; Eyremore 3760.0
 E6m3; Majorville 2338.0 E6m3
 Rec Stn/Max Press: Stn #1649 Badger North 6895.0 kPaa
 LPG-Mix: 12.9 m3/d

Capacities

Substance	Licence Capacity	Design Capacity	Avg Dly 09/2007	Units
Butane	0.00	0.00	0.00	m3
Pentane	0.00	0.00	0.00	m3
Sulphur	0.00	0.00	0.00	tonnes
Sulphur Emission	0.00	0.00	0.00	tonnes
Sulphur Recovery	0.00	0.00	0.00	%
Raw Gas	850.00	850.00	390.70	E3m3
Sales Gas	844.00	844.00	372.80	E3m3
Injected	0.00	0.00	0.00	E3m3
Shrinkage	0.00	0.00	2.50	E3m3
Fuel	0.00	0.00	6.20	E3m3
Flared	0.00	0.00	0.00	E3m3
Other	0.00	0.00	9.20	E3m3
Ethane Plus	0.00	0.00	0.00	m3
Ethane	0.00	0.00	0.00	m3
NGL	0.00	0.00	0.00	m3
Propane	0.00	0.00	0.00	m3

Average Daily Throughput History

Date	Butane m3	Pentane m3	Sulphur tonnes	Emission tonnes	Recovery %	Raw Gas E3m3
10/2005	0.00	0.00	0.00	0.00	0.00	501.50
11/2005	0.00	0.00	0.00	0.00	0.00	497.10
12/2005	0.00	0.10	0.00	0.00	0.00	466.50
01/2006	0.00	0.00	0.00	0.00	0.00	517.10
02/2006	0.00	0.00	0.00	0.00	0.00	511.40
03/2006	0.00	0.00	0.00	0.00	0.00	501.00
04/2006	0.00	0.00	0.00	0.00	0.00	478.40
05/2006	0.00	0.00	0.00	0.00	0.00	487.50
06/2006	0.00	0.00	0.00	0.00	0.00	482.30
07/2006	0.00	0.00	0.00	0.00	0.00	494.40
08/2006	0.00	0.00	0.00	0.00	0.00	465.90
09/2006	0.00	0.00	0.00	0.00	0.00	452.30
10/2006	0.00	0.00	0.00	0.00	0.00	453.10
11/2006	0.00	0.00	0.00	0.00	0.00	463.60
12/2006	0.00	0.00	0.00	0.00	0.00	448.00

03/2007	0.00	0.00	0.00	0.00	0.00	396.60
04/2007	0.00	0.00	0.00	0.00	0.00	398.50
05/2007	0.00	0.00	0.00	0.00	0.00	411.10
06/2007	0.00	0.00	0.00	0.00	0.00	415.20
07/2007	0.00	0.00	0.00	0.00	0.00	404.30
08/2007	0.00	0.00	0.00	0.00	0.00	391.70
09/2007	0.00	0.00	0.00	0.00	0.00	390.70

Date	Sales Gas E3m3	Injected E3m3	Shrinkage E3m3	Fuel E3m3	Flared E3m3	Other E3m3
10/2005	483.50	0.00	2.30	7.10	0.00	8.60
11/2005	498.30	0.00	2.50	7.20	0.00	-10.90
12/2005	488.70	0.00	2.50	7.30	0.00	-32.00
01/2006	511.00	0.00	2.40	7.00	0.00	-3.20
02/2006	506.20	0.00	2.20	6.80	0.00	-3.80
03/2006	486.80	0.00	2.30	6.50	0.00	5.40

04/2006	459.40	0.00	2.50	5.90	0.00	10.60
05/2006	477.10	0.00	2.10	6.80	0.00	1.50
06/2006	479.10	0.00	2.20	7.00	0.00	-6.00
07/2006	474.10	0.00	2.10	6.40	0.00	11.80
08/2006	452.70	0.00	2.30	6.40	0.00	4.60
09/2006	440.60	0.00	2.10	5.00	0.00	4.60
10/2006	444.30	0.00	2.30	5.40	0.00	1.10
11/2006	438.70	0.00	2.60	5.60	0.00	16.60
12/2006	433.10	0.00	2.70	5.60	0.00	6.70
01/2007	389.50	0.00	2.30	4.50	0.00	9.60
02/2007	365.70	0.00	2.20	4.00	0.00	20.70
03/2007	376.90	0.00	2.20	4.40	0.00	13.10
04/2007	381.70	0.00	2.40	4.40	0.00	10.10
05/2007	394.40	0.00	2.70	4.70	0.00	9.40
06/2007	395.70	0.00	2.30	4.60	0.00	12.70
07/2007	402.60	0.00	2.20	6.70	0.00	-7.10
08/2007	376.00	0.00	2.50	7.10	0.00	6.10
09/2007	372.80	0.00	2.50	6.20	0.00	9.20

Date	Ethane+ m3	Ethane m3	NGL m3	Propane m3
10/2005	0.00	0.00	0.00	0.00
11/2005	0.00	0.00	0.00	0.00
12/2005	0.00	0.00	0.00	0.00
01/2006	0.00	0.00	0.00	0.00
02/2006	0.00	0.00	0.00	0.00
03/2006	0.00	0.00	0.00	0.00
04/2006	0.00	0.00	0.00	0.00
05/2006	0.00	0.00	0.00	0.00
06/2006	0.00	0.00	0.00	0.00
07/2006	0.00	0.00	0.00	0.00
08/2006	0.00	0.00	0.00	0.00
09/2006	0.00	0.00	0.00	0.00
10/2006	0.00	0.00	0.00	0.00
11/2006	0.00	0.00	0.00	0.00
12/2006	0.00	0.00	0.00	0.00
01/2007	0.00	0.00	0.00	0.00
02/2007	0.00	0.00	0.00	0.00
03/2007	0.00	0.00	0.00	0.00
04/2007	0.00	0.00	0.00	0.00
05/2007	0.00	0.00	0.00	0.00
06/2007	0.00	0.00	0.00	0.00
07/2007	0.00	0.00	0.00	0.00
08/2007	0.00	0.00	0.00	0.00
09/2007	0.00	0.00	0.00	0.00

R18W4

↑ 41521.6

↓ 41521.6

T17

T17

CS

B

GS
GS

GS

GS B

CS

B

82470

1480

B

B

CS

B

↑ 40462.4

↙ 26782.3

R18W4

STD. PIPELINES LEGEND

— Natural Gas

FACILITY LEGEND

CS Compressor station
GS Gas Gathering System
GPP Gas processing plant

01-18-017-18 W4M

01-18-017-18 W4M

AccuMap

Created in AccuMap™
Product of IHIS
Datum: NAD27
Vol 12 No 11 Nov 16, 2007
(403) 270-1616

Author: Inches:
Date: December 31, 2007
File: None
Scale: 1:740
Projection: Stereographic
Contour: NS042854 W112.45279

Scale 1:740



**EUB FACILITY INFORMATION
FOR
01-18-017-18 W4M**

FACILITY DATA CURRENT TO MARCH 10, 2008
FLARING, VENTING & PRODUCTION DATA CURRENT TO DECEMBER 1, 2007

OPTIONS

[View
Licencee/Operator
Info](#)

[Print Screen](#)

[Close Screen](#)

BATTERY

TYPE:	GAS MULTIWELL PRORATION SE ALBERTA BATTERY		
STATUS:	ACTIVE	LICENCE #:	F29796
NAME:	BADGER LAKE LATERAL "A"		
OPERATOR:	ENDEV ENERGY INC.		
LICENCEE:	ENDEV ENERGY INC.		

BATTERY

TYPE:	GAS MULTIWELL PRORATION SE ALBERTA BATTERY		
STATUS:	ACTIVE	LICENCE #:	F29796
NAME:	BADGER LAKE LATERAL "B"		
OPERATOR:	ENDEV ENERGY INC.		
LICENCEE:	ENDEV ENERGY INC.		

BATTERY

TYPE:	GAS MULTIWELL PRORATION SE ALBERTA BATTERY		
STATUS:	ACTIVE	LICENCE #:	F29796
NAME:	BADGER LAKE LATERAL "C"		
OPERATOR:	ENDEV ENERGY INC.		
LICENCEE:	ENDEV ENERGY INC.		

BATTERY

TYPE:	GAS MULTIWELL GROUP BATTERY		
STATUS:	ACTIVE	LICENCE #:	F2226
NAME:	ARMADA LP MWB		
OPERATOR:	HUSKY OIL OPERATIONS LIMITED		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		

BATTERY

TYPE:	GAS MULTIWELL GROUP BATTERY		
STATUS:	ACTIVE	LICENCE #:	F2226
NAME:	ARMADA HP MWB		
OPERATOR:	HUSKY OIL OPERATIONS LIMITED		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		

COMPRESSOR STATION

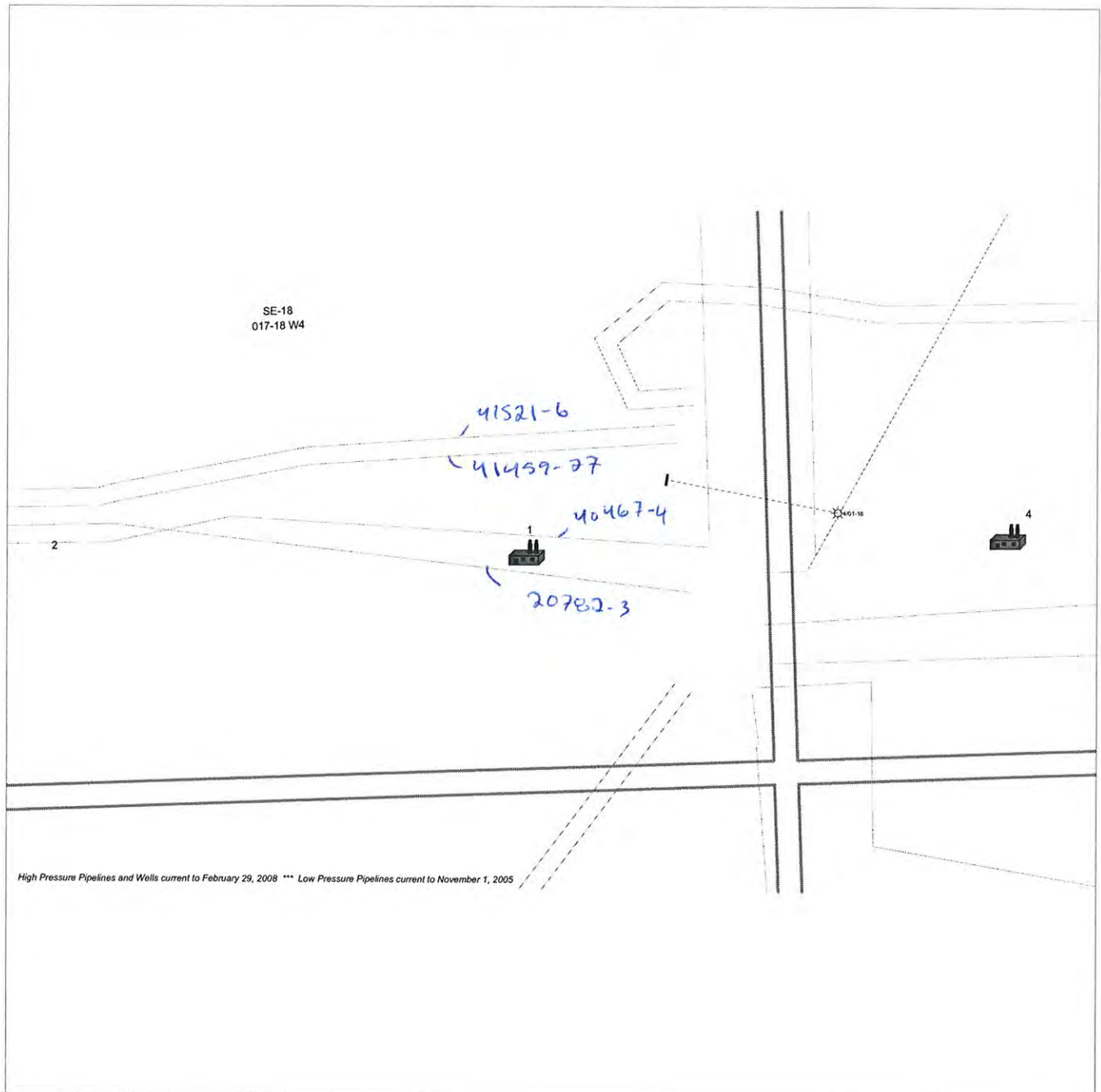
TYPE:	COMPRESSOR STATION		
STATUS:	ACTIVE	LICENCE #:	F29796
NAME:	ENDEV ENERGY INC		
OPERATOR:	ENDEV ENERGY INC.		
LICENCEE:	ENDEV ENERGY INC.		

COMPRESSOR STATION

TYPE:	COMPRESSOR STATION		
STATUS:	ACTIVE	LICENCE #:	F29848

NAME:	MARATHON CANADA LIMITED		
OPERATOR:	HUSKY OIL OPERATIONS LIMITED		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		
GAS GATHERING SYSTEM			
TYPE:	GAS GATHERING SYSTEM		
STATUS:	ACTIVE	LICENCE #:	F29796
NAME:	BADGER 102/01-18-017-18W4 GGS		
OPERATOR:	ENDEV ENERGY INC.		
LICENCEE:	ENDEV ENERGY INC.		
GAS GATHERING SYSTEM			
TYPE:	GAS GATHERING SYSTEM		
STATUS:	ACTIVE	LICENCE #:	F2226
NAME:	ARMADA 1-18 LP		
OPERATOR:	HUSKY OIL OPERATIONS LIMITED		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		
GAS GATHERING SYSTEM			
TYPE:	GAS GATHERING SYSTEM		
STATUS:	ACTIVE	LICENCE #:	F2226
NAME:	ARMADA 1-18 HP		
OPERATOR:	HUSKY OIL OPERATIONS LIMITED		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		
* GAS PLANT *			
TYPE:	GAS PLANT SWEET		
STATUS:	ACTIVE	LICENCE #:	F2226
NAME:	TARRAGON EYREMORE		
OPERATOR:	HUSKY OIL OPERATIONS LIMITED		
LICENCEE:	HUSKY OIL OPERATIONS LIMITED		
METER STATION			
TYPE:	FIELD METER STATION		
STATUS:	ACTIVE	LICENCE #:	
NAME:	BADGER NORTH		
OPERATOR:	NOVA GAS TRANSMISSION LTD.		
LICENCEE:			

01-18-017-18 W4M



EUB DATA		ATTACHED FILES		Close Screen	
EUB PIPELINE INFORMATION CURRENT TO FEBRUARY 29, 2008					
LICENCE/LINE #:	20782 - 3	PERMIT DATE:			
ABACUS #:	50002	LICENCE DATE:	SEPTEMBER 17, 1984		
COMPANY:	HUSKY OIL OPERATIONS LIMITED				
FROM LOCATION:	16-20-016-19 W4M PL	TO LOCATION:	01-18-017-18 W4M CS		
LENGTH:	11.41 kms	7.09 mi	STATUS:	O	
SUBSTANCE:	NG	H2S:	0 mol/kmol	0 ppm	
OD:	114.3 mm	4.50 "	WT:	2.77 mm	0.11 "
MATERIAL:	S	TYPE:	Z245.3		
GRADE:	2902	MOP:	7580 kPa	1099 psi	
JOINTS:	Z	INTL COATING:	U		
STRESS LEVEL:	54 %	ENVIRONMENT:			
ORIGINAL PERMIT DATE:			CONST. DATE:		
ORIGINAL LICENCE/LINE #:	20782 - 3				
OPTIONS					
View Company Info					
View Installation Info					
View Entire Licence					
View Licence Ticket					
View Spill Incidents					
Highlight Line					
Highlight Entire Licence					
Print Screen					

EUB DATA		ATTACHED FILES		Close Screen																																																																		
<div>EUB PIPELINE INFORMATION CURRENT TO FEBRUARY 29, 2008</div> <table border="1"><tr><td>LICENCE/LINE #:</td><td>40467 - 4</td><td>PERMIT DATE:</td><td colspan="2">APRIL 20, 2004</td></tr><tr><td>ABACUS #:</td><td>62812</td><td>LICENCE DATE:</td><td colspan="2">APRIL 20, 2005</td></tr><tr><td>COMPANY:</td><td colspan="4">CRESCENT POINT GENERAL PARTNER CORP.</td></tr><tr><td>FROM LOCATION:</td><td>13-35-016-19 W4M CS</td><td>TO LOCATION:</td><td colspan="2">01-18-017-18 W4M MS</td></tr><tr><td>LENGTH:</td><td>7.41 kms</td><td>4.60 mi</td><td>STATUS:</td><td>O</td></tr><tr><td>SUBSTANCE:</td><td>NG</td><td>H2S:</td><td>0 mol/kmol</td><td>0 ppm</td></tr><tr><td>OD:</td><td>114.3 mm</td><td>4.50 "</td><td>WT:</td><td>4 mm</td><td>0.16 "</td></tr><tr><td>MATERIAL:</td><td>S</td><td>TYPE:</td><td colspan="2">Z245.1</td></tr><tr><td>GRADE:</td><td>3592</td><td>MOP:</td><td>9930 kPa</td><td>1440 psi</td></tr><tr><td>JOINTS:</td><td>W</td><td>INTL COATING:</td><td colspan="2">U</td></tr><tr><td>STRESS LEVEL:</td><td>40 %</td><td>ENVIRONMENT:</td><td colspan="2"></td></tr><tr><td>ORIGINAL PERMIT DATE:</td><td>APRIL 20, 2004</td><td>CONST. DATE:</td><td colspan="2"></td></tr><tr><td>ORIGINAL LICENCE/LINE #:</td><td>40467 - 4</td><td colspan="3"></td></tr></table>				LICENCE/LINE #:	40467 - 4	PERMIT DATE:	APRIL 20, 2004		ABACUS #:	62812	LICENCE DATE:	APRIL 20, 2005		COMPANY:	CRESCENT POINT GENERAL PARTNER CORP.				FROM LOCATION:	13-35-016-19 W4M CS	TO LOCATION:	01-18-017-18 W4M MS		LENGTH:	7.41 kms	4.60 mi	STATUS:	O	SUBSTANCE:	NG	H2S:	0 mol/kmol	0 ppm	OD:	114.3 mm	4.50 "	WT:	4 mm	0.16 "	MATERIAL:	S	TYPE:	Z245.1		GRADE:	3592	MOP:	9930 kPa	1440 psi	JOINTS:	W	INTL COATING:	U		STRESS LEVEL:	40 %	ENVIRONMENT:			ORIGINAL PERMIT DATE:	APRIL 20, 2004	CONST. DATE:			ORIGINAL LICENCE/LINE #:	40467 - 4				OPTIONS
				LICENCE/LINE #:	40467 - 4	PERMIT DATE:	APRIL 20, 2004																																																															
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<div>EUB PIPELINE INFORMATION CURRENT TO FEBRUARY 29, 2008</div> <table border="1"><tr><td>LICENCE/LINE #:</td><td>41459 - 27</td><td>PERMIT DATE:</td><td colspan="2">NOVEMBER 3, 2003</td></tr><tr><td>ABACUS #:</td><td>55201</td><td>LICENCE DATE:</td><td colspan="2">NOVEMBER 3, 2004</td></tr><tr><td>COMPANY:</td><td colspan="4">ENDEV ENERGY INC.</td></tr><tr><td>FROM LOCATION:</td><td>14-32-017-19 W4M CS</td><td>TO LOCATION:</td><td colspan="2">01-18-017-18 W4M PL</td></tr><tr><td>LENGTH:</td><td>13.73 kms</td><td>8.53 mi</td><td>STATUS:</td><td>O</td></tr><tr><td>SUBSTANCE:</td><td>NG</td><td>H2S:</td><td>0 mol/kmol</td><td>0 ppm</td></tr><tr><td>OD:</td><td>114.3 mm</td><td>4.50 "</td><td>WT:</td><td>4 mm</td><td>0.16 "</td></tr><tr><td>MATERIAL:</td><td>S</td><td>TYPE:</td><td colspan="2">Z245.1</td></tr><tr><td>GRADE:</td><td>2901</td><td>MOP:</td><td>9930 kPa</td><td>1440 psi</td></tr><tr><td>JOINTS:</td><td>W</td><td>INTL COATING:</td><td colspan="2">U</td></tr><tr><td>STRESS LEVEL:</td><td>49 %</td><td>ENVIRONMENT:</td><td colspan="2"></td></tr><tr><td>ORIGINAL PERMIT DATE:</td><td>NOVEMBER 3, 2003</td><td>CONST. DATE:</td><td colspan="2"></td></tr><tr><td>ORIGINAL LICENCE/LINE #:</td><td>41459 - 27</td><td colspan="3"></td></tr></table>				LICENCE/LINE #:	41459 - 27	PERMIT DATE:	NOVEMBER 3, 2003		ABACUS #:	55201	LICENCE DATE:	NOVEMBER 3, 2004		COMPANY:	ENDEV ENERGY INC.				FROM LOCATION:	14-32-017-19 W4M CS	TO LOCATION:	01-18-017-18 W4M PL		LENGTH:	13.73 kms	8.53 mi	STATUS:	O	SUBSTANCE:	NG	H2S:	0 mol/kmol	0 ppm	OD:	114.3 mm	4.50 "	WT:	4 mm	0.16 "	MATERIAL:	S	TYPE:	Z245.1		GRADE:	2901	MOP:	9930 kPa	1440 psi	JOINTS:	W	INTL COATING:	U		STRESS LEVEL:	49 %	ENVIRONMENT:			ORIGINAL PERMIT DATE:	NOVEMBER 3, 2003	CONST. DATE:			ORIGINAL LICENCE/LINE #:	41459 - 27				OPTIONS
				LICENCE/LINE #:	41459 - 27	PERMIT DATE:	NOVEMBER 3, 2003																																																															
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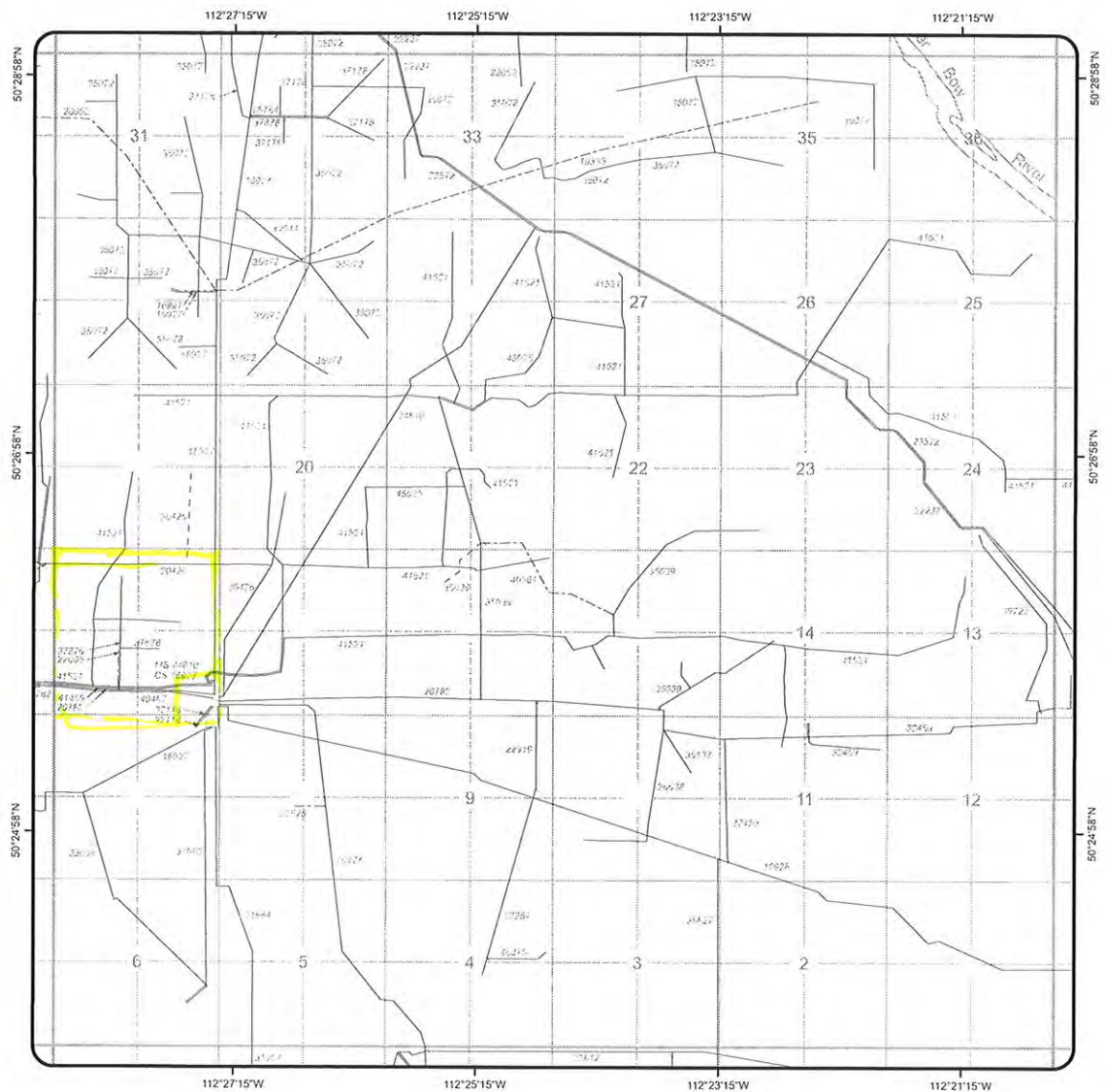
EUB DATA		ATTACHED FILES		Close Screen																																																																			
<p style="text-align: center;">EUB PIPELINE INFORMATION CURRENT TO FEBRUARY 29, 2008</p> <table border="1"><tr><td>LICENCE/LINE #:</td><td>41521 - 6</td><td>PERMIT DATE:</td><td colspan="2">JULY 25, 2006</td></tr><tr><td>ABACUS #:</td><td>55190</td><td>LICENCE DATE:</td><td colspan="2"></td></tr><tr><td>COMPANY:</td><td colspan="4">ENDEV ENERGY INC.</td></tr><tr><td>FROM LOCATION:</td><td>01-14-017-19 W4M PL</td><td>TO LOCATION:</td><td colspan="2">01-18-017-18 W4M CS</td></tr><tr><td>LENGTH:</td><td>3.28 kms</td><td>2.04 ml</td><td>STATUS:</td><td>O</td></tr><tr><td>SUBSTANCE:</td><td>NG</td><td>H2S:</td><td>0 mol/kmol</td><td>0 ppm</td></tr><tr><td>OD:</td><td>219.1 mm</td><td>8.63 "</td><td>WT:</td><td>4.8 mm</td><td>0.19 "</td></tr><tr><td>MATERIAL:</td><td>S</td><td>TYPE:</td><td colspan="2">Z245.1</td></tr><tr><td>GRADE:</td><td>2901</td><td>MOP:</td><td>4960 kPa</td><td>719 psi</td></tr><tr><td>JOINTS:</td><td>W</td><td>INTL COATING:</td><td colspan="2">U</td></tr><tr><td>STRESS LEVEL:</td><td>39 %</td><td>ENVIRONMENT:</td><td colspan="2"></td></tr><tr><td>ORIGINAL PERMIT DATE:</td><td></td><td>CONST. DATE:</td><td colspan="2"></td></tr><tr><td>ORIGINAL LICENCE/LINE #:</td><td>0 - 0</td><td colspan="3"></td></tr></table>				LICENCE/LINE #:	41521 - 6	PERMIT DATE:	JULY 25, 2006		ABACUS #:	55190	LICENCE DATE:			COMPANY:	ENDEV ENERGY INC.				FROM LOCATION:	01-14-017-19 W4M PL	TO LOCATION:	01-18-017-18 W4M CS		LENGTH:	3.28 kms	2.04 ml	STATUS:	O	SUBSTANCE:	NG	H2S:	0 mol/kmol	0 ppm	OD:	219.1 mm	8.63 "	WT:	4.8 mm	0.19 "	MATERIAL:	S	TYPE:	Z245.1		GRADE:	2901	MOP:	4960 kPa	719 psi	JOINTS:	W	INTL COATING:	U		STRESS LEVEL:	39 %	ENVIRONMENT:			ORIGINAL PERMIT DATE:		CONST. DATE:			ORIGINAL LICENCE/LINE #:	0 - 0				OPTIONS	
				LICENCE/LINE #:	41521 - 6	PERMIT DATE:	JULY 25, 2006																																																																
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Highlight Line																																																																							
Highlight Entire Licence																																																																							
Print Screen																																																																							

An aerial photograph of a city grid, likely New York City, with a grid overlay. The grid is composed of squares, each labeled with a letter and a number. The letters are A through Z, and the numbers are 1 through 26. The grid is oriented with A at the top and 1 on the left. The photograph shows the city's layout, including streets, buildings, and parks. A large, dark, irregular shape is visible in the lower-left quadrant, possibly a body of water or a large park. The grid lines are white and clearly visible against the dark background of the photograph. The labels are printed in a bold, sans-serif font. The overall image has a grainy, high-contrast appearance, typical of a photocopy or a low-quality scan.

[illegible]

information as depicted is subject to change. Therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.

姓名	性别	年龄	职业	住址	电话	备注
王德胜	男	45	教师	XX路XX号	XXXXXX	
李小红	女	32	护士	XX街XX号	XXXXXX	
张小明	男	28	学生	XX村XX组	XXXXXX	
赵大刚	男	55	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	40	医生	XX医院XX科	XXXXXX	
周国强	男	38	农民	XX乡XX村	XXXXXX	
吴小芳	女	25	职员	XX公司XX部	XXXXXX	
郑大伟	男	50	干部	XX局XX处	XXXXXX	
陈小红	女	35	记者	XX报社XX部	XXXXXX	
周小明	男	22	学生	XX大学XX系	XXXXXX	
吴大刚	男	58	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	42	医生	XX医院XX科	XXXXXX	
周国强	男	40	农民	XX乡XX村	XXXXXX	
吴小芳	女	28	职员	XX公司XX部	XXXXXX	
郑大伟	男	52	干部	XX局XX处	XXXXXX	
陈小红	女	38	记者	XX报社XX部	XXXXXX	
周小明	男	25	学生	XX大学XX系	XXXXXX	
吴大刚	男	60	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	45	医生	XX医院XX科	XXXXXX	
周国强	男	43	农民	XX乡XX村	XXXXXX	
吴小芳	女	30	职员	XX公司XX部	XXXXXX	
郑大伟	男	55	干部	XX局XX处	XXXXXX	
陈小红	女	40	记者	XX报社XX部	XXXXXX	
周小明	男	28	学生	XX大学XX系	XXXXXX	
吴大刚	男	63	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	48	医生	XX医院XX科	XXXXXX	
周国强	男	46	农民	XX乡XX村	XXXXXX	
吴小芳	女	33	职员	XX公司XX部	XXXXXX	
郑大伟	男	58	干部	XX局XX处	XXXXXX	
陈小红	女	43	记者	XX报社XX部	XXXXXX	
周小明	男	31	学生	XX大学XX系	XXXXXX	
吴大刚	男	66	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	51	医生	XX医院XX科	XXXXXX	
周国强	男	49	农民	XX乡XX村	XXXXXX	
吴小芳	女	36	职员	XX公司XX部	XXXXXX	
郑大伟	男	61	干部	XX局XX处	XXXXXX	
陈小红	女	46	记者	XX报社XX部	XXXXXX	
周小明	男	34	学生	XX大学XX系	XXXXXX	
吴大刚	男	69	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	54	医生	XX医院XX科	XXXXXX	
周国强	男	52	农民	XX乡XX村	XXXXXX	
吴小芳	女	39	职员	XX公司XX部	XXXXXX	
郑大伟	男	64	干部	XX局XX处	XXXXXX	
陈小红	女	49	记者	XX报社XX部	XXXXXX	
周小明	男	37	学生	XX大学XX系	XXXXXX	
吴大刚	男	72	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	57	医生	XX医院XX科	XXXXXX	
周国强	男	55	农民	XX乡XX村	XXXXXX	
吴小芳	女	42	职员	XX公司XX部	XXXXXX	
郑大伟	男	67	干部	XX局XX处	XXXXXX	
陈小红	女	52	记者	XX报社XX部	XXXXXX	
周小明	男	40	学生	XX大学XX系	XXXXXX	
吴大刚	男	75	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	60	医生	XX医院XX科	XXXXXX	
周国强	男	58	农民	XX乡XX村	XXXXXX	
吴小芳	女	45	职员	XX公司XX部	XXXXXX	
郑大伟	男	70	干部	XX局XX处	XXXXXX	
陈小红	女	55	记者	XX报社XX部	XXXXXX	
周小明	男	43	学生	XX大学XX系	XXXXXX	
吴大刚	男	78	工人	XX厂XX车间	XXXXXX	
孙丽娟	女	63	医生	XX医院XX科	XXXXXX	
周国强	男	61	农民	XX乡XX村	XXXXXX	
吴小芳	女	48	职员	XX公司XX部	XXXXXX	
郑大伟	男	73	干部	XX局XX处	XXXXXX	
陈小红	女	58	记者	XX报社XX部	XXXXXX	
周小明	男	46	学生	XX大学XX系	XXXXXX	
吴大刚	男	81	工人	XX		



0 2,000 4,000 8,000 Metres

Coordinate System: 10TM






ALL PIPELINES IN TWP 017-18W4

REVISION DATE:
01 August 2007

CAUTION
- THIS PLOT REPRESENTS THE BEST
INFORMATION AVAILABLE TO THE
BOARD AT THIS TIME.
- SPECIFIC PIPELINE LOCATIONS
SHOULD BE OBTAINED FROM SURVEY
PLANS, OWNERS AND FIELD
OBSERVATION BEFORE DIGGING.
- LOW-PRESSURE GAS DISTRIBUTION
LINES ARE NOT SHOWN.
CONTACT THE GAS DISTRIBUTOR
IN THIS AREA FOR LINE LOCATION

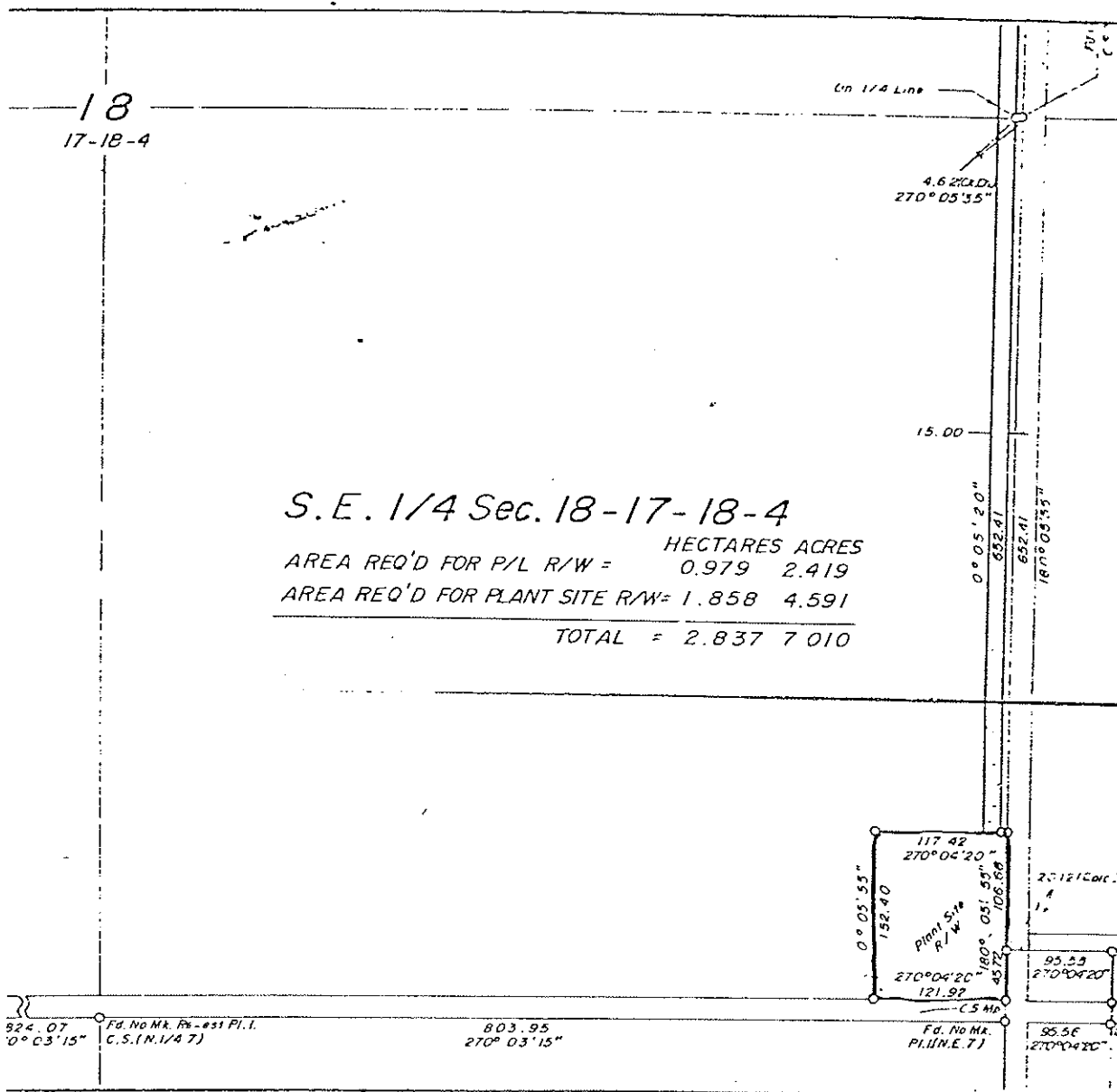
LEGEND

PERMITTED: 
LICENSED: 
DISCONTINUED,
ABANDONED,
OR ABANDONED
AND PARTIALLY
REMOVED: 



Appendix C

DOHRANE R. CO. TS LTD.
INDIVIDUAL OWNERSHIP PLAN
SHOWING PIPE LINE RIGHT-OF-WAY
SCALE: 1:5000



OWNER: Her Majesty The Queen

TITLE NUMBER: 34 X 68

LEGEND

MONUMENT FOUND SHOWN THUS ●
MONUMENT PLANTED SHOWN THUS ○
PORTION REFERRED TO COLORED 'IN RED'
DISTANCES ARE IN METRES AND DECIMALS

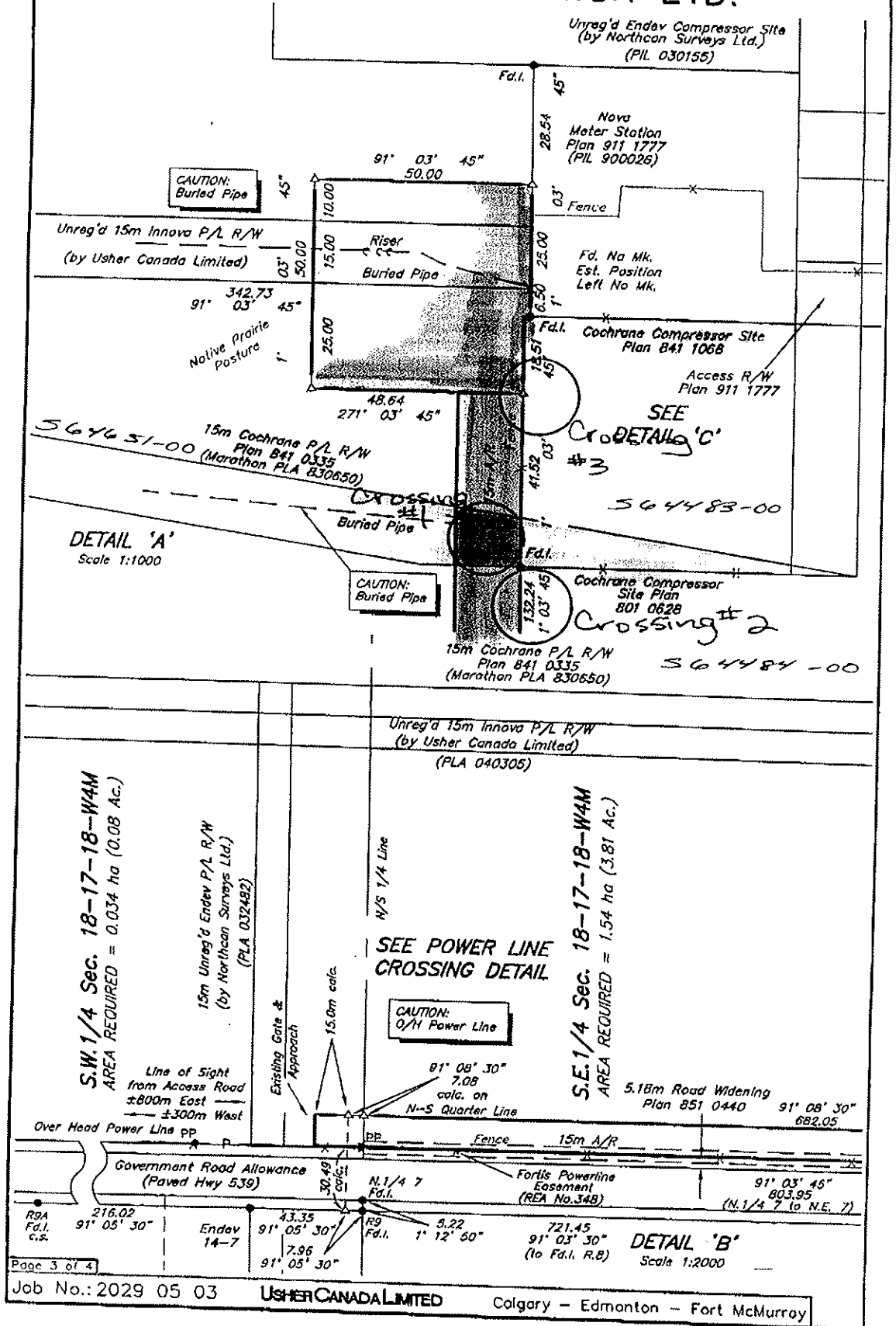
I, Donald N Tomkinson, Alberta Land Surveyor, hereby
certify that the survey represented by this plan is true
and correct to the best of my knowledge and was completed
on the 19th day of July 1979

Donald N Tomkinson
ALBERTA LAND SURVEYOR



CAN-AM SURVEYS LTD.
216-Center Street North,
Calgary, Alberta
Phone 277-7584

INNOVA EXPLORATION LTD.



INNOVA ENERGY LTD.

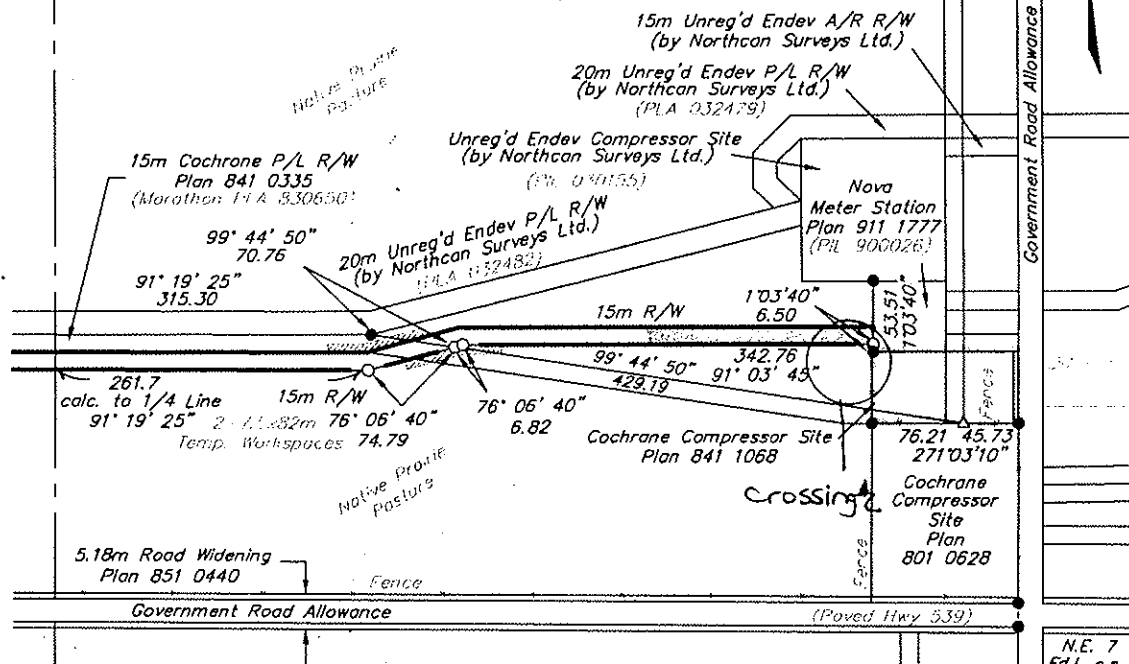
INDIVIDUAL OWNERSHIP PLAN SHOWING 15 METRE PIPELINE RIGHT-OF-WAY IN S.E.1/4 SEC.18, TWP.17, RGE.18, W.4 M.

18
17-18-4

Grazing Lease
GRL 80446
Henness, Russell A
Henness, Patrick Royce

S.E.1/4 Sec.18-17-18-4

AREA REQUIRED = 1.03 ha (2.55 Ac.)



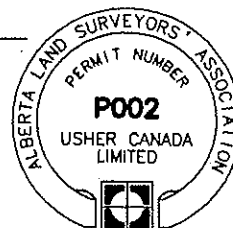
I/We the landowner(s)/occupant(s), consent to the location of the Pipeline Right of Way as shown and have no objections to the A.E.U.B. issuing a pipeline and/or construction permit.
Dated this day of, 2004.

Scale 1 : 5000

Survey Monuments found shown thus : ●
Survey Monuments Planted shown thus : ○
Spike found shown thus : ▲
Portions referred to shown thus : []

Certified correct this 5th day
of February, 2004.

Alberta Land Surveyor



Witness

Landowner/Occupant

Witness

Landowner/Occupant

Owner(s): CROWN

C. of T. 991 220 642 +19

AREA REQUIRED FOR:

Right-of-Way = 1.03 ha (2.55 Ac.)

Temporary Workspace = 0.123 ha (0.30 Ac.)

JOB No.: 2029.03.22IOP12



USHER CANADA LIMITED

6444 12th Street S.E.
Calgary, Alberta, T2H 2X2
Ph.: (403) 640-9002
Fax: (403) 640-9005



Appendix D


APRS Results of Search By Legal Description

Search is based on section. When ordering, please provide the **required project numbers** and a **more precise location** (i.e. site diagram, quarter section, legal subdivision or street address).

NEW--> Click on the hilited projects to download a zip file containing the photo centres for the project.

Legal Description (Sec. Twp. Rge. W Meridian): 01-18 - 17 - 18 - 4

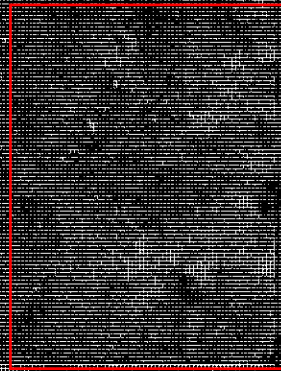
Project No.	Sub. ID	Coverage (Partial/Complete)	Date	Scale (1:)	Emulsion	Comments
* 99-032 P3	10	C	1999-05-06 ^{4 21}	30000	B/W Agfa-50	
* 91-191	19	C	1991-00-00 ^{8 4}	30000	B/W PAN-150	
88-724+	1	C	1988-10-00	10000	True Colour*	
85-137	22	C	1985-06-00	30000	B/W PAN-2405	
* E85-002	1	C	1985-05-16	10000	False Colour*	
* 81-065	3	C	1981-08-09 ²⁵	30000	B/W Pan-2405	
81-167 82I	2	C	1981-00-00	60000	B/W Pan-2405	extends into 82J
M77-82I08 5	1	C	1977-10-10	10000	True Colour*	Mach Air Indicies
* E77-277	18	C	1977-00-00 ^{12 10}	20000	PAN 2405	
* 70-119	15	C	1970-05-07 ^{04 05}	31680	PAN 2405	
70-322 82I	2	C	1970-00-00	80000	B/W Pan-2405	
62-82I	2	C	1962-00-00	31680	B/W	
49-82I	2	C	1949-00-00	40000	B/W Super XX	Years 49-51?

An aerial photograph showing a landscape with a dark, textured area on the left and a lighter, more uniform area on the right. A red rectangular box is drawn on the dark area, indicating a specific location of interest. The image has a grainy, high-contrast appearance typical of older aerial photography.

Pre-disturbance photograph-the
lease was not visible within the
surrounding area.

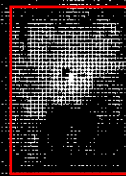
Location: 01-18-017-18 W4M
Date: April 5, 1970
Scale: 1:7,920

Pre-disturbance photograph-the
lease was not visible within the
surrounding area.



2500 12 OCT 77 MA 1204
A15/23 152 993 01-20000

Location: 01-18-017-18 W4M
Date: October 12, 1977
Scale: 1:5,000



Location: 01-18-017-18 W4M
Date: August 25, 1981
Scale: 1:7,500



85-5-16 KN.4 AS3153 78

Location: 01-18-017-18 W4M
Date: May 16, 1985
Scale: 1:5,000



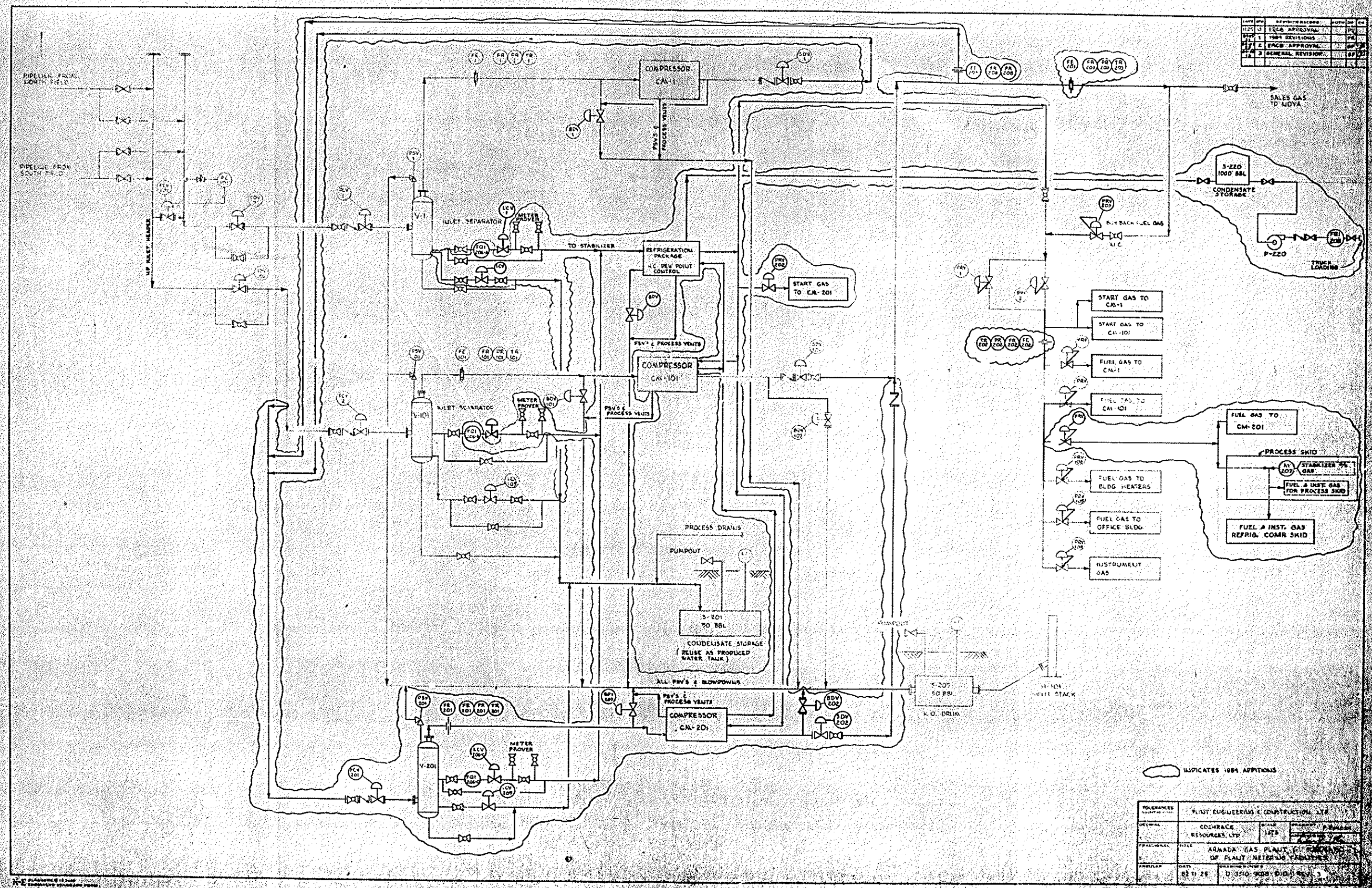
Location: 01-18-017-18 W4M
Date: August 4, 1991
Scale: 1:7,500

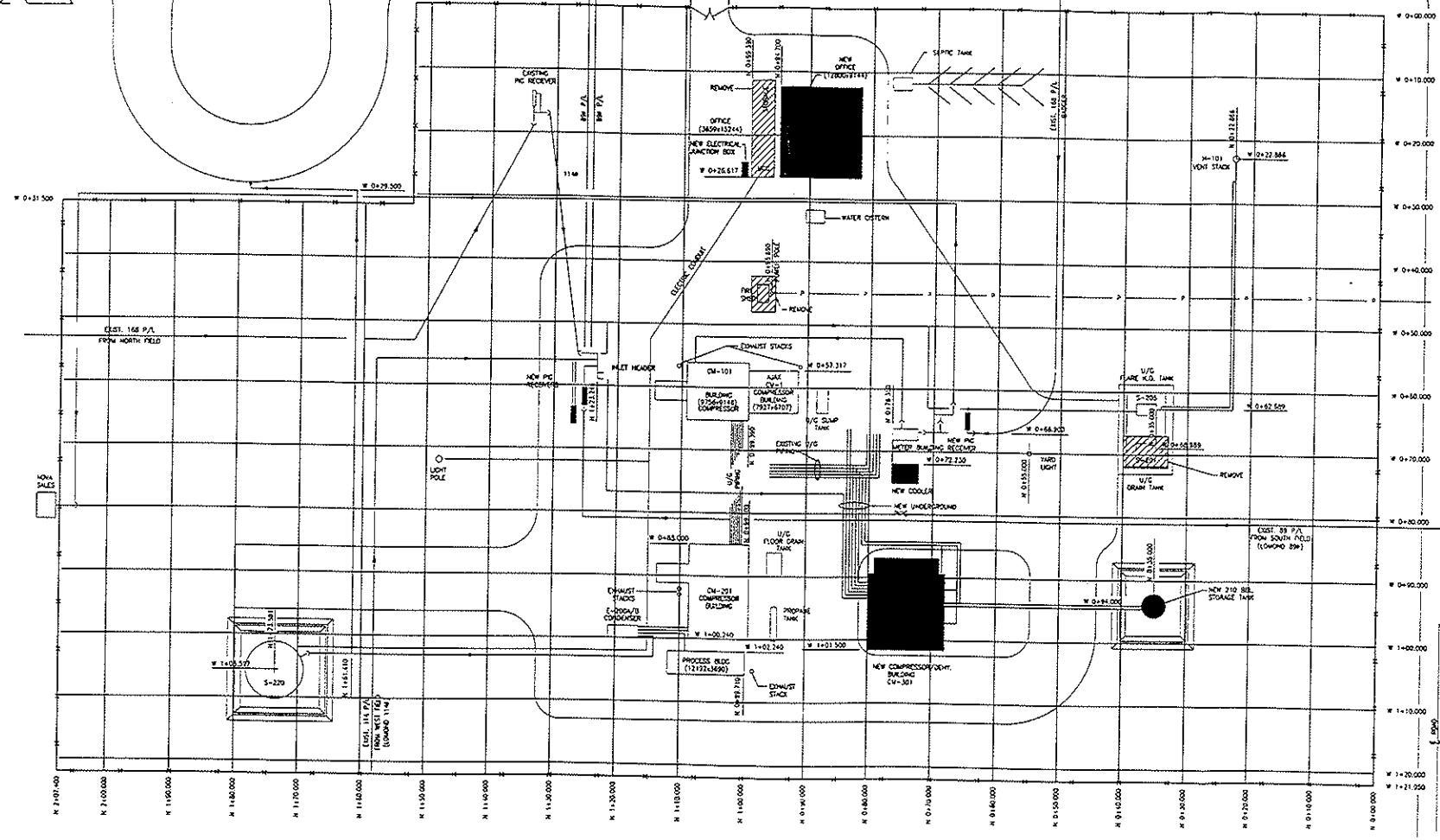


Location: 01-18-017-18 W4M
Date: April 24, 1999
Scale: 1:7,500

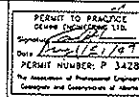


Appendix E



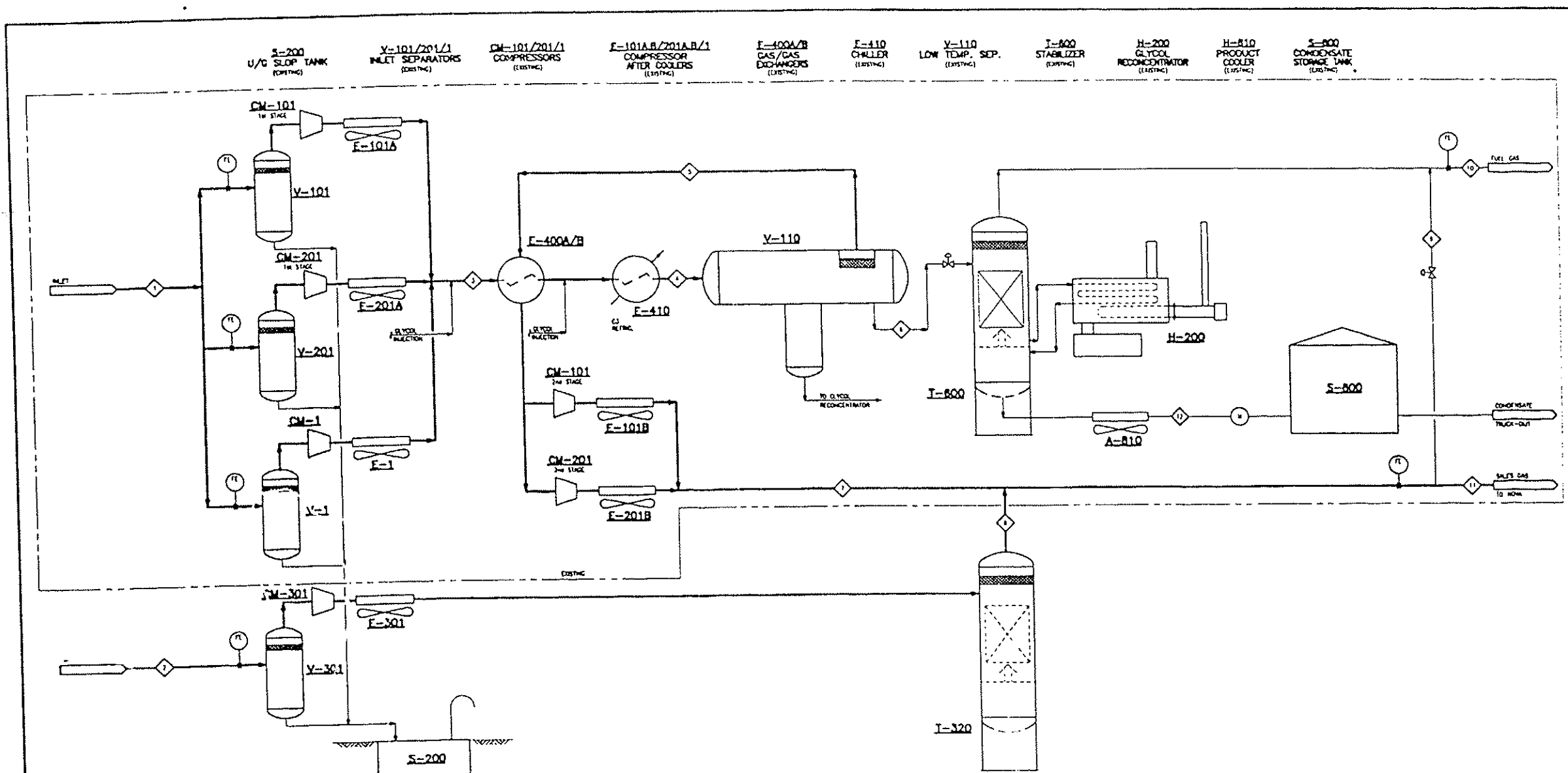


NOTES					
	I	97-07-23	AS BUILT AS PER FIELD MARKUP	MCM	/7
	D	97-08-14	ISSUED FOR CONSTRUCTION	CK	
	C	97-03-34	GENERAL REVISION	RAC	
	B	97-03-32	GENERAL REVISION	SL	
	A	97-02-18	ISSUED FOR APPROVAL	SL	
FILE NAME: PLTFRN125125125.DWG; PLOT DATE: 97-01-25	NO	DATE	REVISIONS	DRAWN	CHK.
					APPD.
					PLCUNT
					MR



DRAWING:	DATE:
SL	97.02
CHECKED:	DATE:
<i>[Signature]</i>	97.0
APPROVED:	
CLIENT APPROVAL:	
SCALE:	
1:300	
PROJECT NO:	
G96-132	

Gemini Engineering Ltd.		PROJECT MANAGEMENT - DESIGN CALGARY, ALBERTA	
NICO LIMITED ARMADA EXPANSION LSD 01-18-17-18 W4W PLOT PLAN			
CLIENT DWG. NO.:	-	CLIENT DWG. NO.:	G96-132-PP-001
		REV	1



Stream Name	1	2	3	4	5	6	7	8	9	10	11	12
Temperature, °F	100	100	100	100	100	100	100	100	100	100	100	100
Pressure, psia	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Flow, m³/d	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Mass Flow, kg/d	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Latent Heat, kJ/d	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

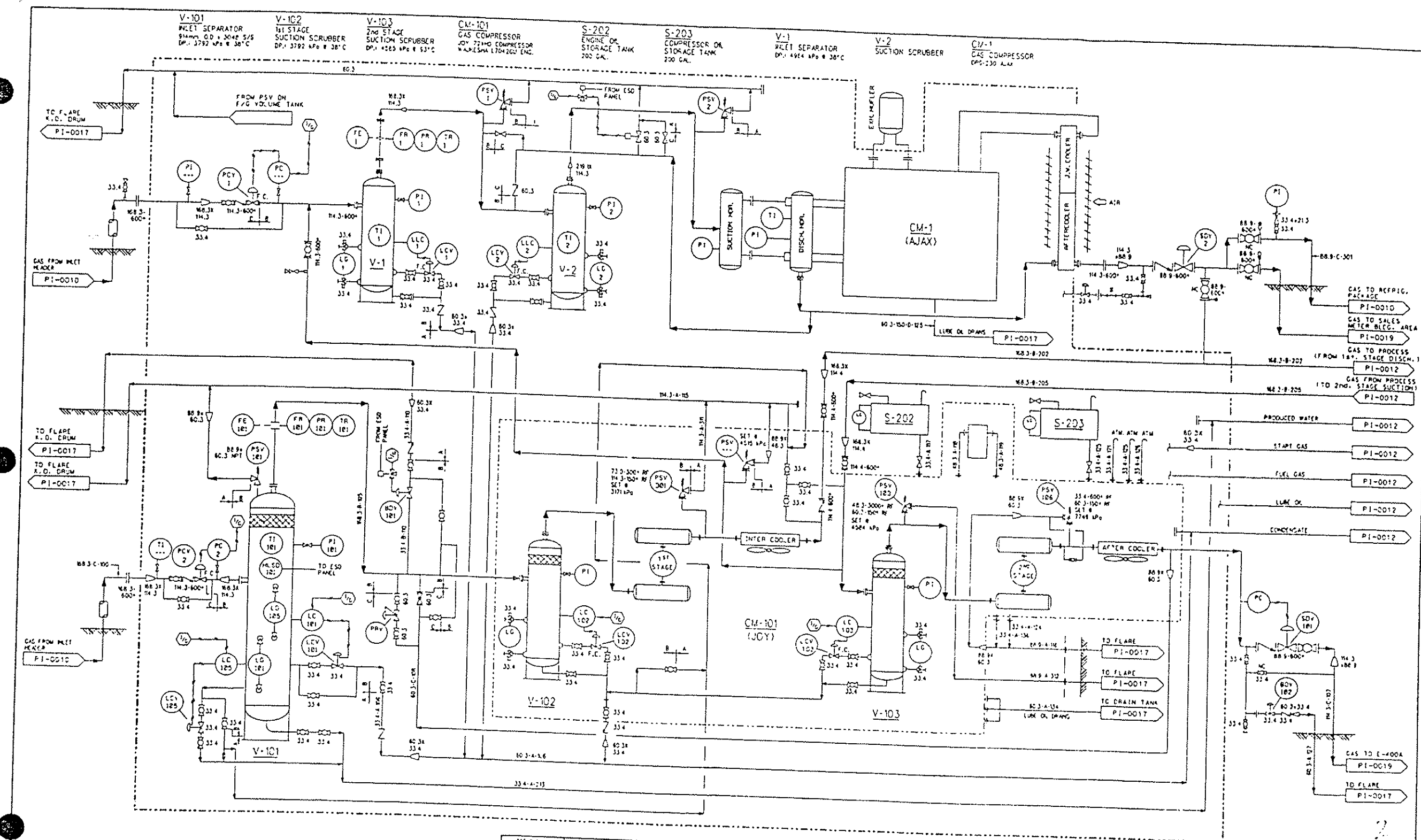
V-301 INLET SEPARATOR (PROPOSED)
 CM-301 COMPRESSOR (PROPOSED)
 E-301 COMPRESSOR AFTER COOLER (PROPOSED)
 I-320 DEHYDRATOR (PROPOSED)

DRAWN: [] DATE: []
 CHECKED: [] DATE: []
 APPROVED: []
 CLIENT APPROVAL: []
 SCALE: NONE
 PROJECT NO: 006-132
 CLIENT Dwg. No: []
 CLIENT Dwg. No: 006-132-PFS-001
 REV: A

Gemini Engineering Ltd.
 PROJECT MANAGEMENT - DESIGN
 CALGARY, ALBERTA

AMINDA GAS PLANT EXPANSION
 LSX 01-18-17-18 NAW
 PROCESS FLOW DIAGRAM

NO.	DATE	REVISIONS	DRAWN	CHK.	APP.	CLIENT
1	14-12-10	ISSUED FOR EUB REVIEW				
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						



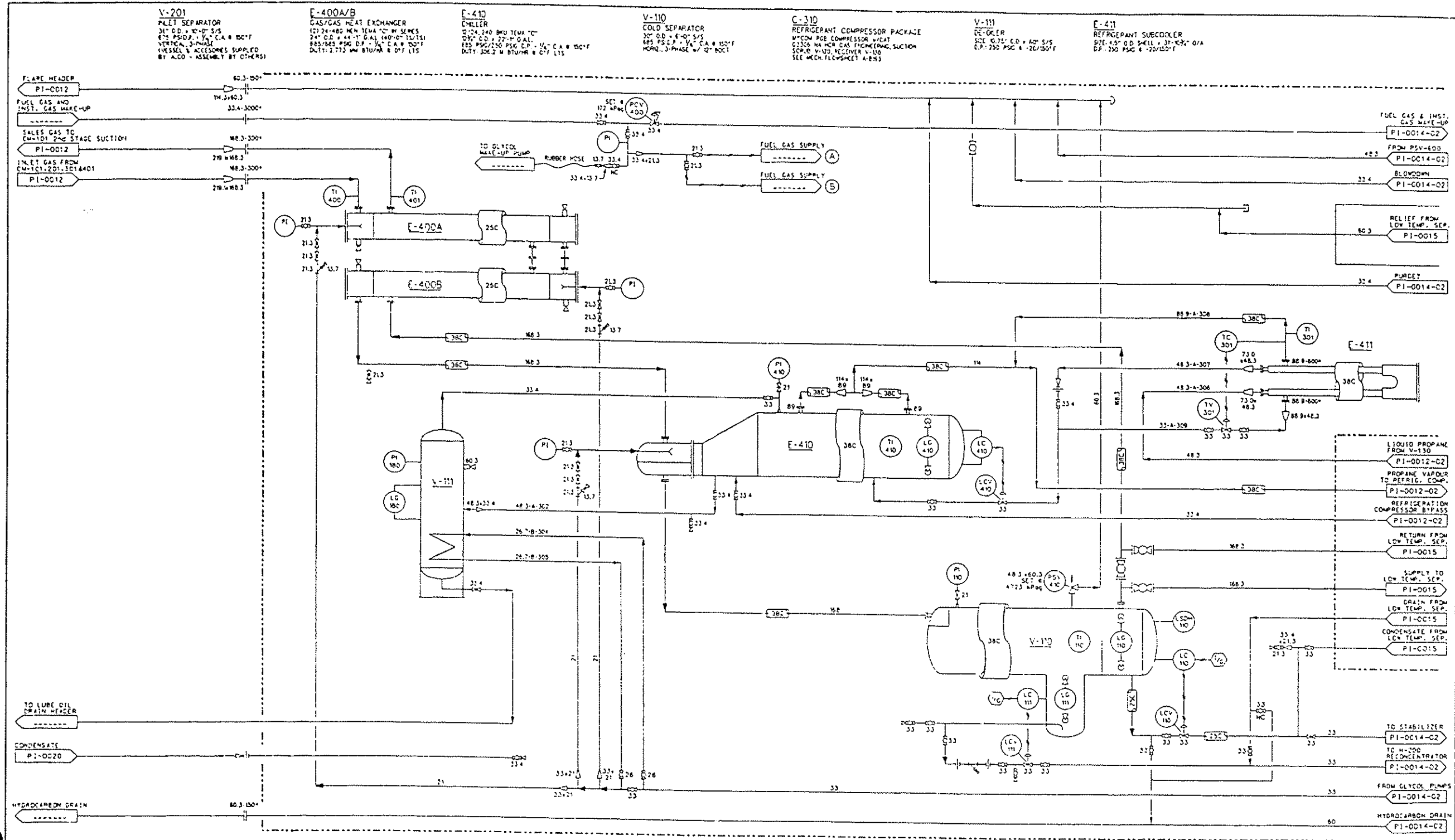
PREPARED BY:
Texaco GAS ENGINEERING LTD.

REV. NO.	REFERENCE DRAWING DESCRIPTION	NO.	REVISION HISTORY	REV. ACTION	REV. DATE	REV. FOR	NO.

Husky Energy

ARMADA GAS PLANT
 ISO-01-18-012-18-01

DESIGNED BY	
CHECKED BY	
SCALE	
DATE	
APPROVED BY	



V-201
FUEL SEPARATOR
36" O.D. x 10'-0" S/S
ETS PSD-2, 1/4" C.A. @ 100°F
VERTICAL, 3-PHASE
(VESSEL & ACCESSORIES SUPPLIED
BY ACO - ASSEMBLY BY OTHERS)

E-400A/B
GAS/GAS HEAT EXCHANGER
121.24x480 HEN-164A 10" M. SERIES
24" O.D. x 44'-1" G.A. (40'-0" L x 15'-1")
R85/865 PSIG D.P. - 1/4" C.A. @ 100°F
DUTY: 2772 M BTU/Hr @ 0°F L.T.S.

E-410
CHILLER
121.24x480 HEN-164A 10" M. SERIES
24" O.D. x 44'-1" G.A. (40'-0" L x 15'-1")
R85/865 PSIG D.P. - 1/4" C.A. @ 100°F
DUTY: 2772 M BTU/Hr @ 0°F L.T.S.

V-110
COLD SEPARATOR
30" O.D. x 6'-0" S/S
R85 PSIG D.P. - 1/4" C.A. @ 100°F
HORIZ. 3-PHASE w/ 12" BOOT

C-310
REFRIGERANT COMPRESSOR PACKAGE
W/COM PGB COMPRESSOR W/HEAT
Q1326 NA HCR GAS ENGINEERING SUCION
SCRUB V-110, RECEIVER V-110
SEE MECH. FLOWSHEET A-893

V-111
RE-SEALER
30" O.D. x 6'-0" S/S
R85 PSIG D.P. - 1/4" C.A. @ 100°F
HORIZ. 3-PHASE w/ 12" BOOT

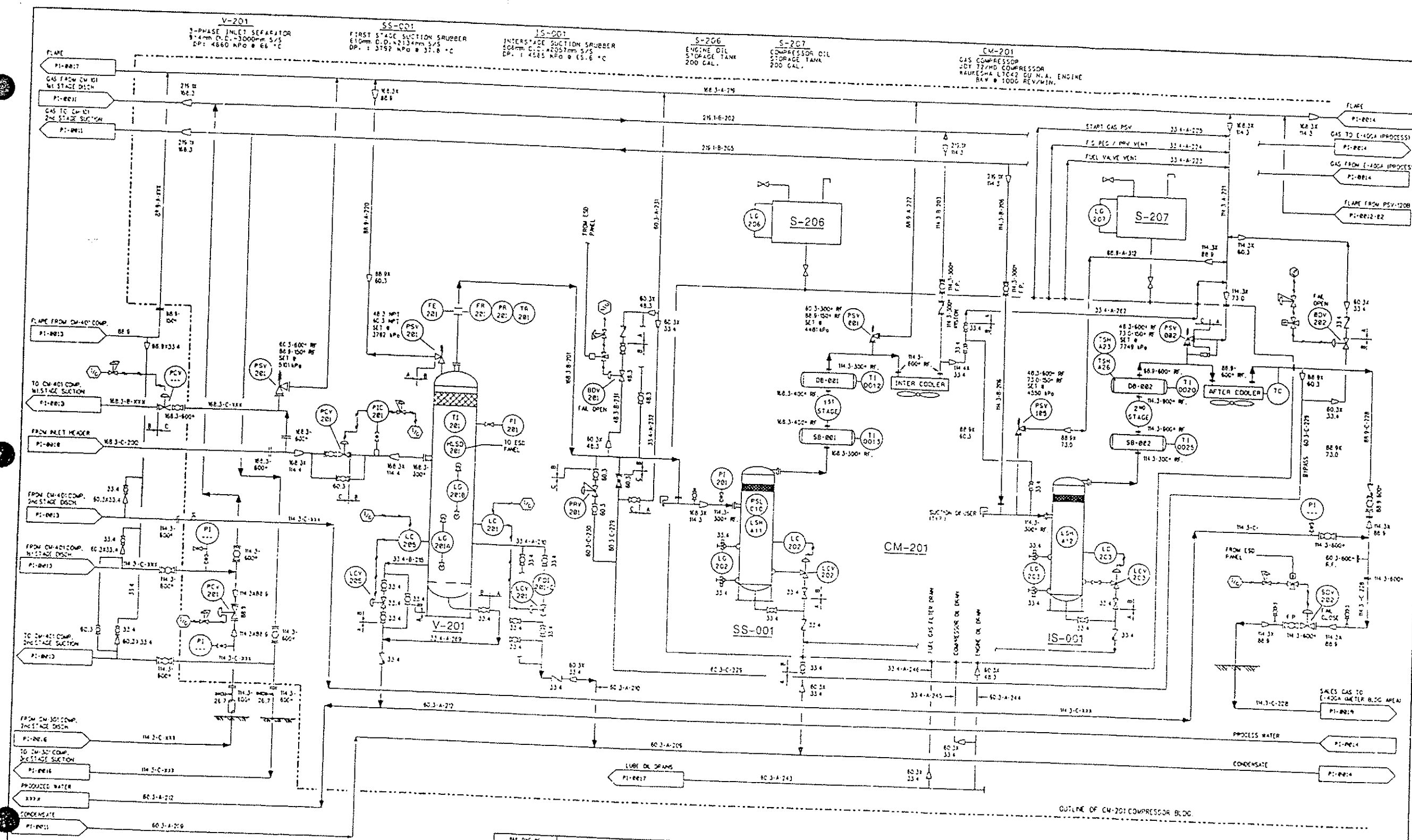
E-411
REFRIGERANT SUBCOOLER
30" O.D. x 6'-0" S/S
R85 PSIG D.P. - 1/4" C.A. @ 100°F
HORIZ. 3-PHASE w/ 12" BOOT

PREPARED BY:
TURK GAS ENGINEERING LTD.

REF. Dwg. NO.	REFERENCE DRAWING DESCRIPTION	NO.	REVISION HISTORY	REV. AUTH.	REV. DATE	ISSUED FOR	NO.

Husky Energy
ARMADA GAS PLANT
LSD 01-18-017-18W4
REFRIGERATION UNIT AREA (SHEET 1 OF 2)
PROCESS & INSTRUMENTATION DIAGRAM

ISSUED FOR	AS BUILT
DOC DATE	2004/07/20
DOC AUTH.	DESP. M. HAN
SCALE	N.T.S.
ALTERNATE IDENTIFIER	
SUPPLY L&D	01-18-017-18W4
DOCUMENT IDENTIFIER	PJ-0014

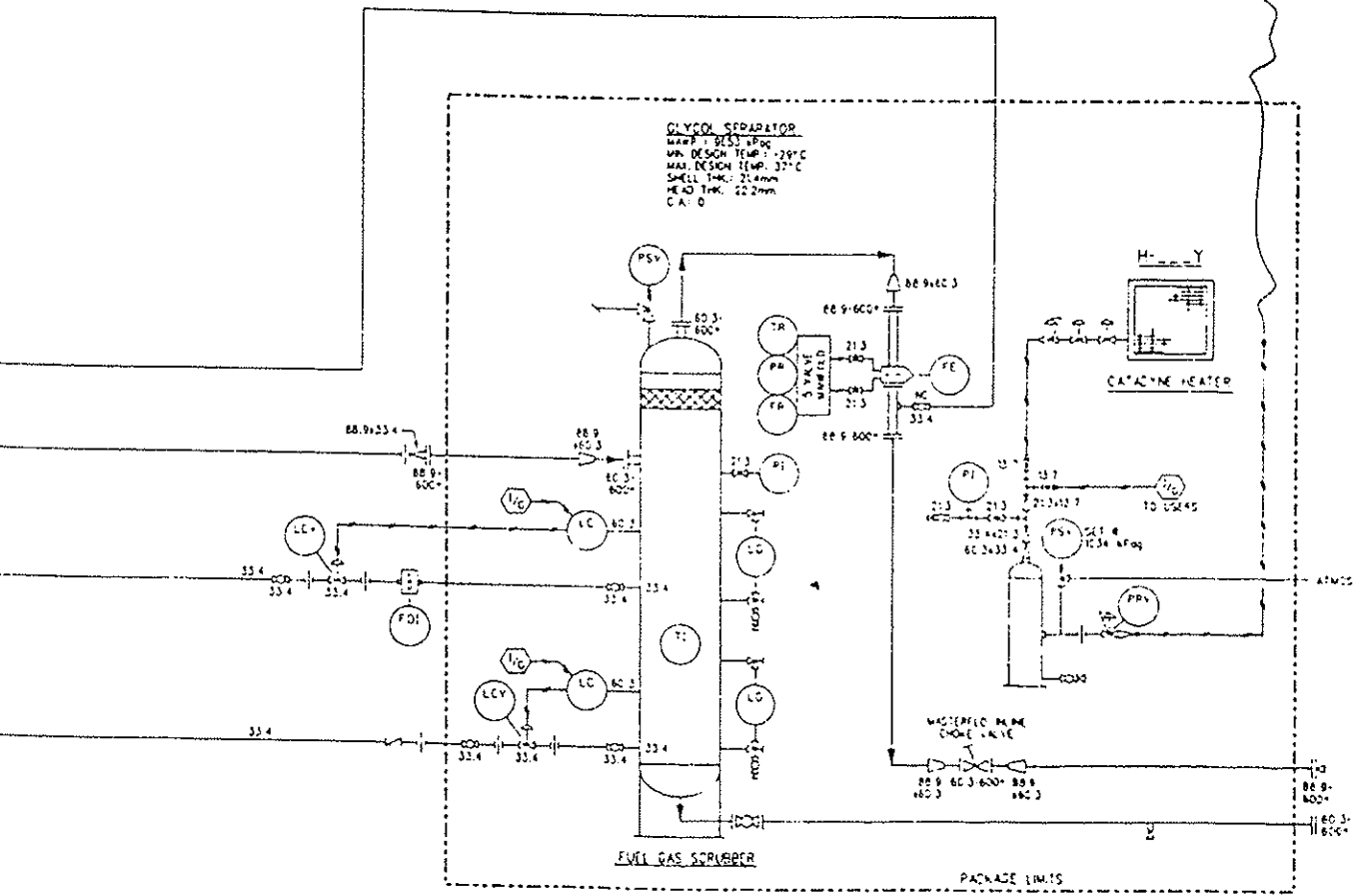
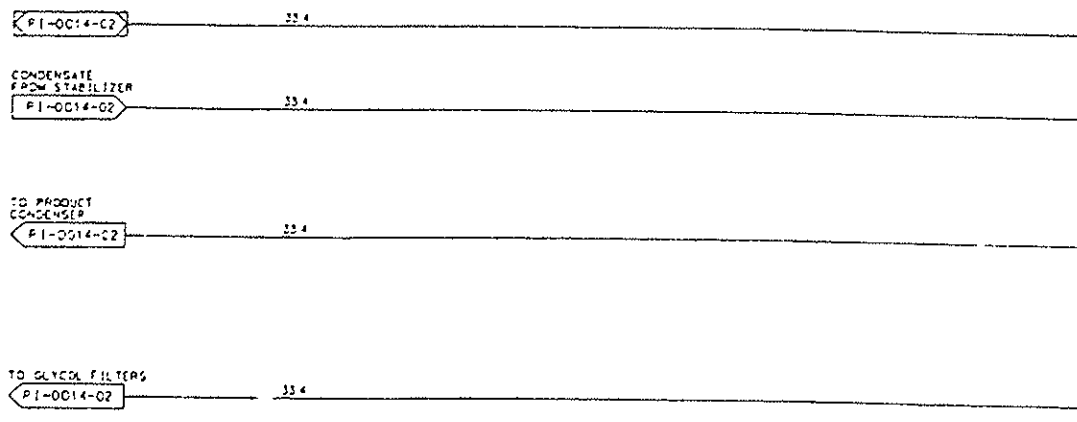
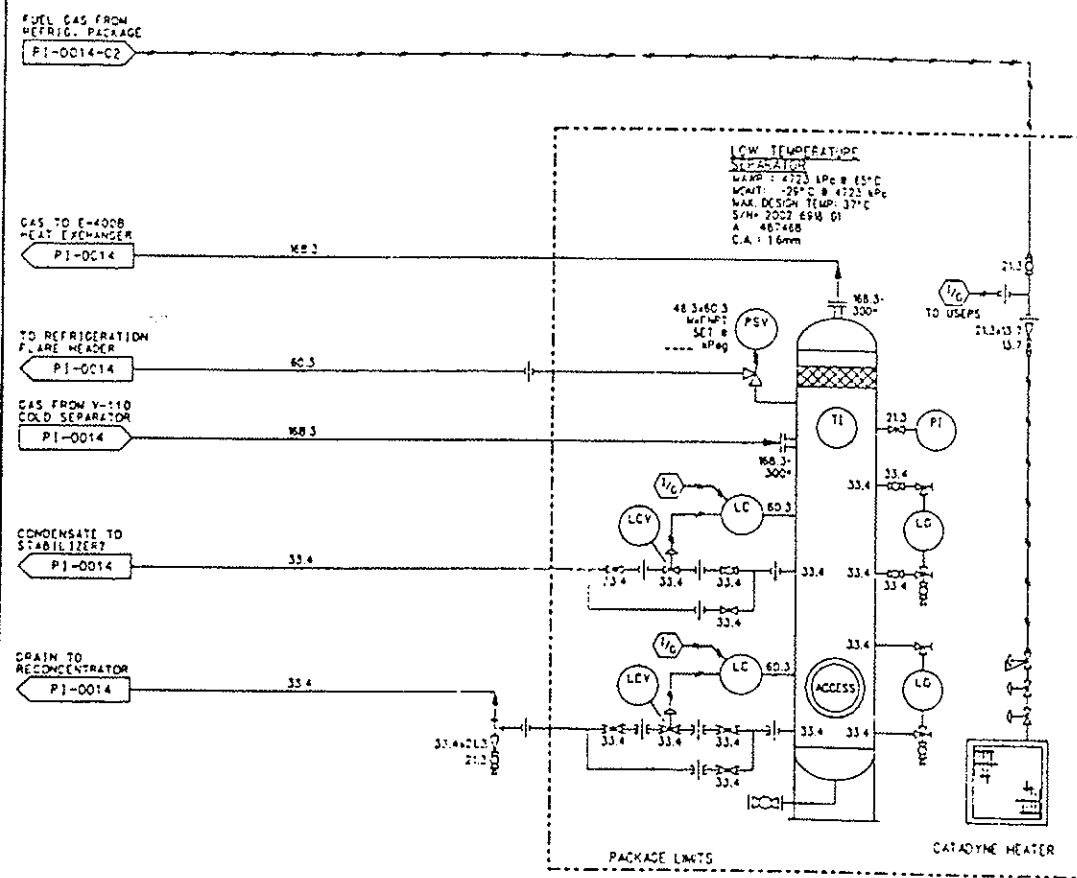


PREPARED BY:
Tuxila
 ENGINEERING LTD.

REV	DATE	DESCRIPTION	NO	REVISION HISTORY	REV	DATE	ISSUED FOR	NO	CURRENT REVISION
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									ISSUED FOR: AS BUILT
									DOC DATE: 2004-07-26
									DOC AUTHOR: EMMANUEL
									SCALE: 1/16"
									ALTERNATE IDENTIFIER
									PROJECT: 110

Husky Energy

ARMADA GAS PLANT
 LSD 01-18-017-18V1

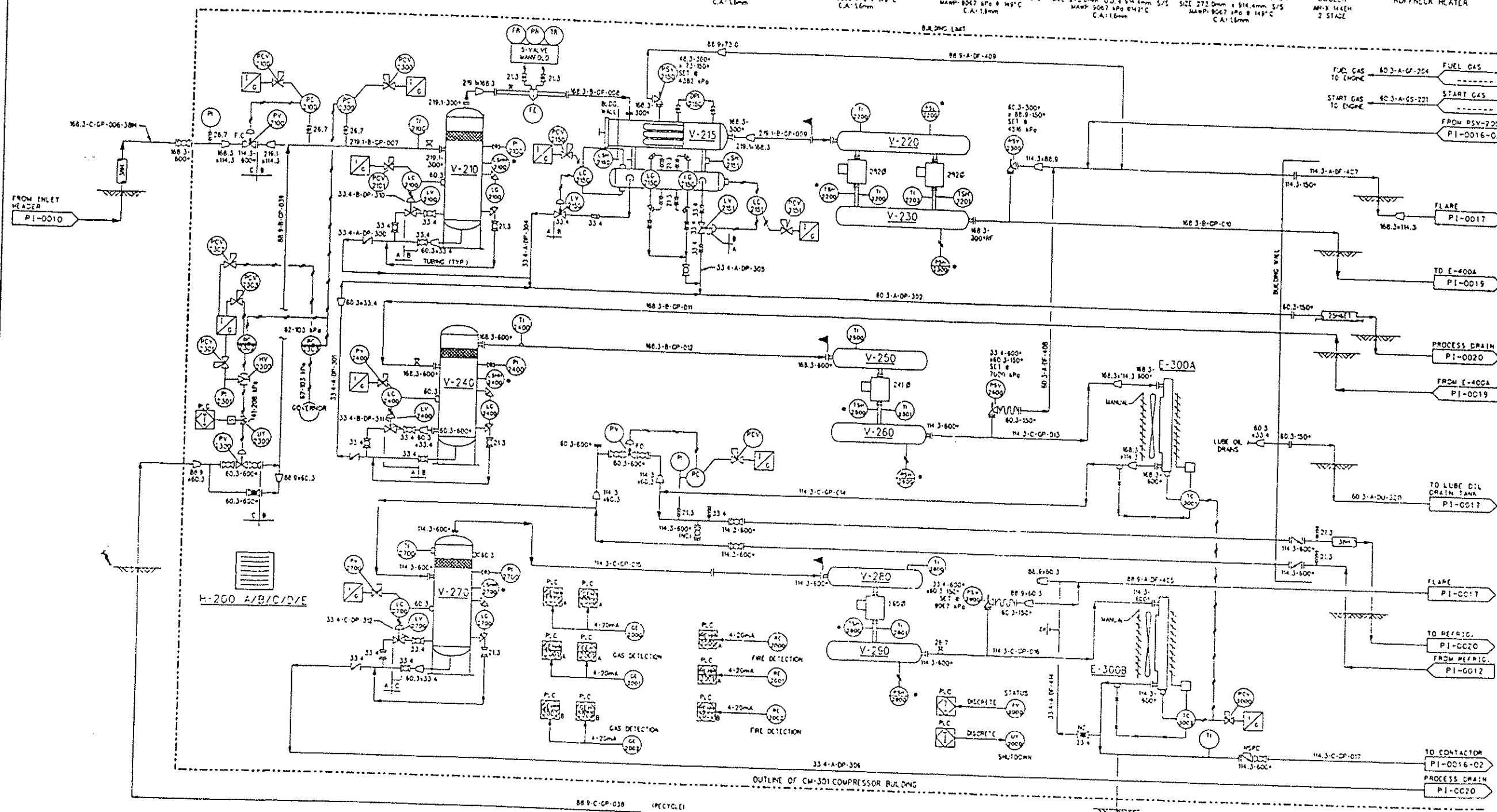


PREPARED BY:
Tuxila
 CH. ENGINEERING LTD.

REF. CHG. NO.	REFERENCE CHG. DESCRIPTION	NO.	REVISION HISTORY	REF. AUTH.	REF. DATE	TRIALS FOR	NO.


Husky Energy
 ARMADA GAS PLANT
 LSD 01-18-017-18W4
 LOW TEMP. & GLYCOL SEPARATOR
 PROCESS & INSTRUMENTATION DIAGRAM

ISSUED FOR	DATE
AS BUILT	2004/07/20
DOC. AUTH.	SEAN A. REY
SCALE	NIS
ALTERNATE IDENTIFIER	
DATE OF LAST	01-18-017-18W4
REVISION	PI-0014



PREPARED BY:
Tuxedo LAS
ENCLOSURE
LTD.

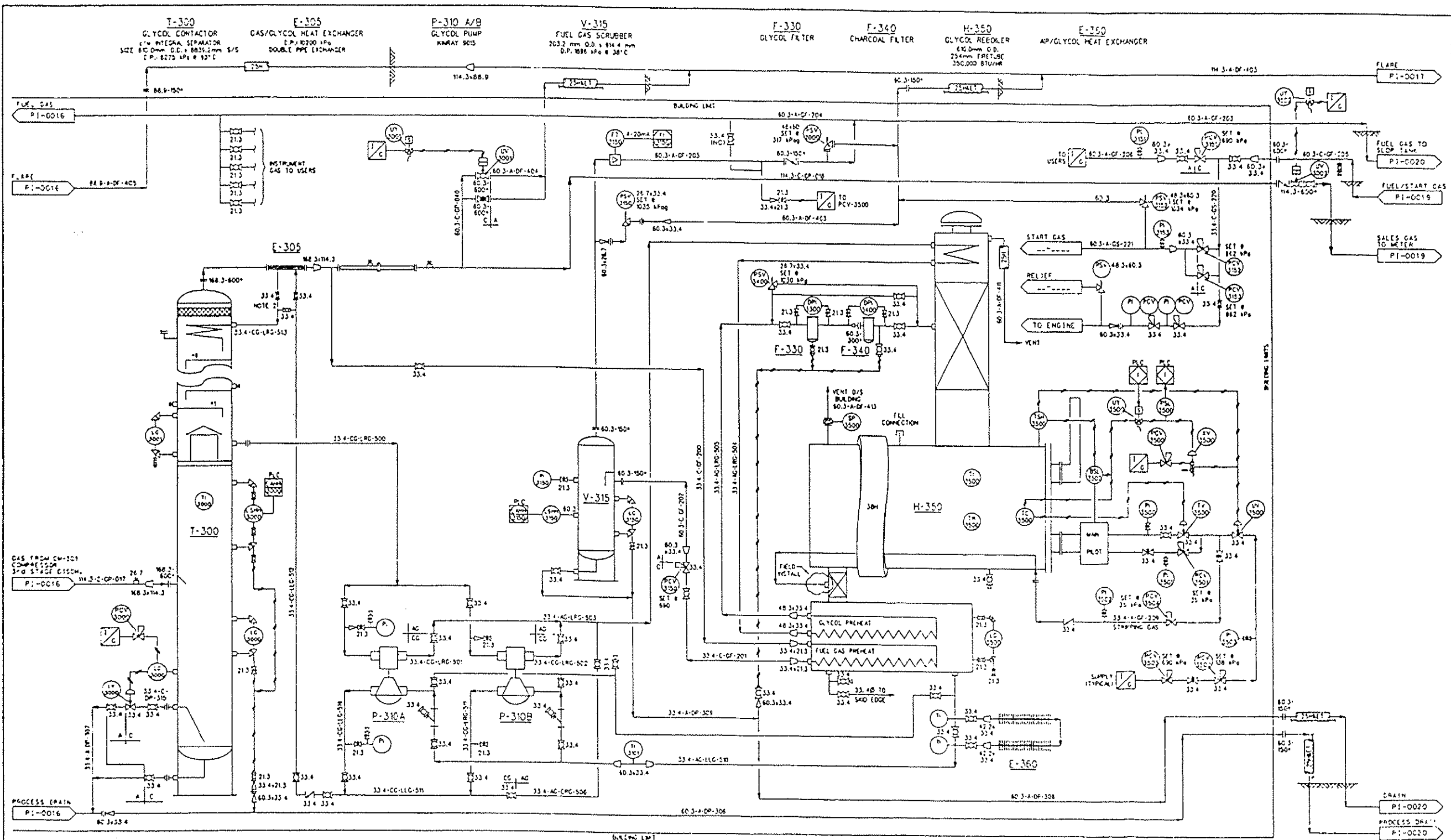
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									DOC AUTH-ON DEEDC 06/06/06
									SCALE 1/16"
									ALTERNATE QUANTITY
									6-2007-1-10



ARMADA GAS PLANT
LSD 01-18-017-12 WAM

Husky Energy

ARMADA GAS PLANT
LSD 01-18-017-18 W4M



PREPARED BY:
TEXELA GAS ENGINEERING LTD.

REF. DWT. NO.	REFERENCE DRAWING DESCRIPTION	NO.	REVISION HISTORY	REV. AUTHOR	REV. DATE	ISSUED FOR	NO.
		1					1


Husky Energy

ARMADA GAS PLANT
 LSD 01-18-017-18W4
 CM-301 COMPRESSOR AREA (SMT. 2 OF 2)
 PROCESS & INSTRUMENTATION DIAGRAM

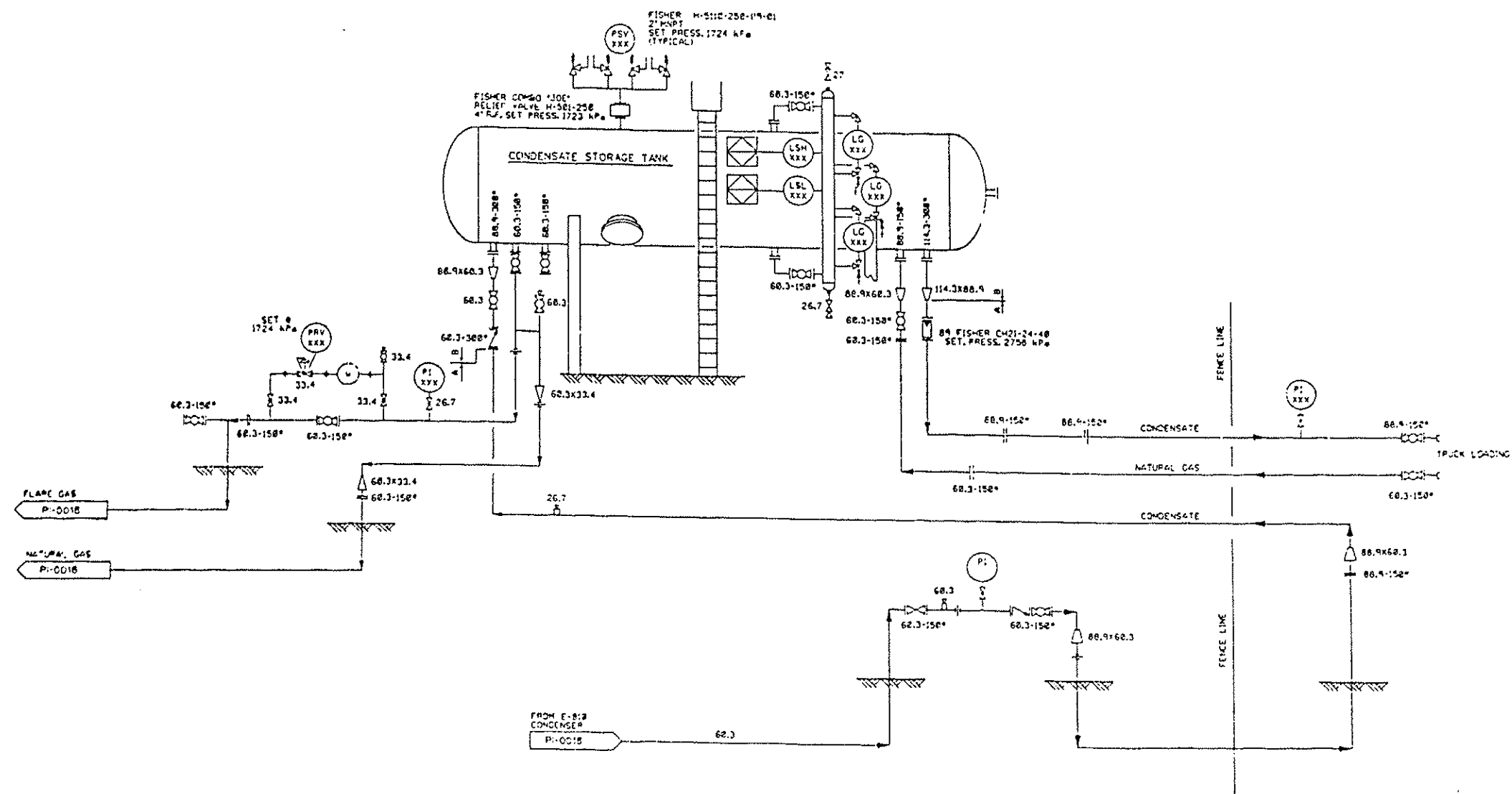
CHECKED FOR	DATE	BY
AS BUILT	2017/07/18	BEIRI BRYAN
SCALE	1:1	
ALTERNATE IDENTIFIER		
SOURCE (LSD)	01-18-017-18W4	
DOCUMENT IDENTIFIER	PI-0018-02	

H-101
VENT STACK
SIZE: 219 mm O.D. x 11877 mm Ht.
C/W 88.9 mm O.D. KM7ER-TUBC



REF. C/D NO.	REFERENCE DRAWING DESCRIPTION	NO.	REVISION HISTORY	REV. AUTHOR	REV. DATE	ISSUED FOR	NO.	CURRENT REVISION	1. REVISED FOR AS BUILT
								AS BUILT	2. DOG DATE 2004.07.01
								 Husky Energy	3. DOG BY THOMAS, JAMES M. E.E.
								ARNADA GAS PLANT	4. SCALE NTS
								L5D 01-18-017-18-N4M	5. ALTERNATE TOLERANCES
								FLARE SYSTEM & OIL DRAIN TANK	6. LOWEST L5D
								PROCESS & INSTRUMENTATION DIAGRAM	7. 01-18-017-18-N4M
									8. DOCUMENT IDENTIFIER

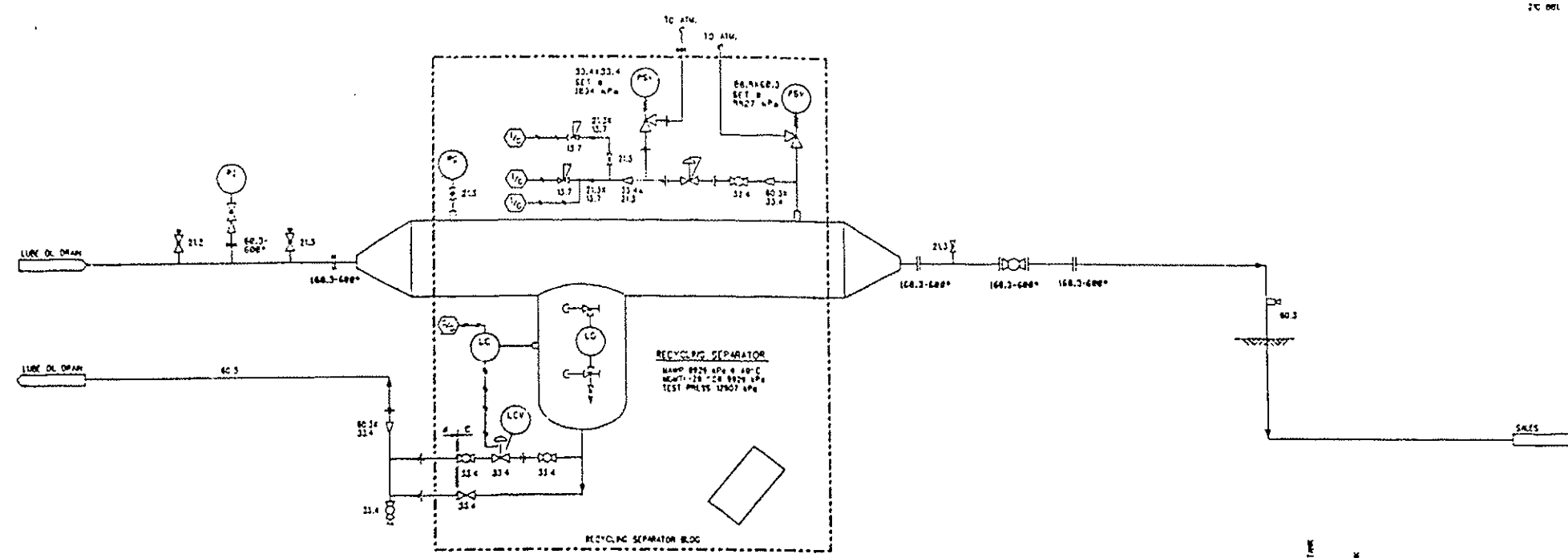
CONDENSATE STORAGE TANK
DIA 2743mm L.G. 5556mm
SHELL: 19.75mm SA16-70
HEAD: 19.62mm SA5 5-70
W.P. 1724 mPa R 46 °C
C.A. 10mm



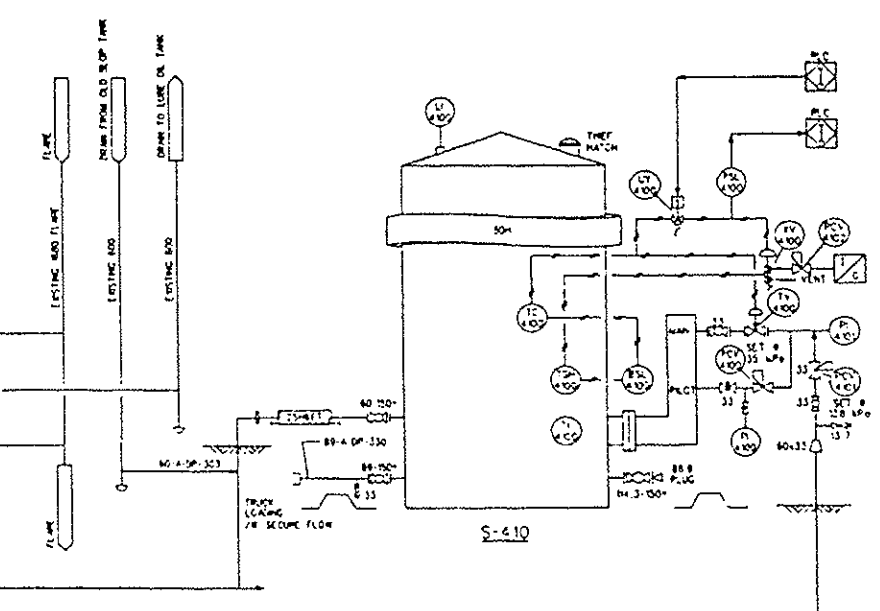
PREPARED BY:
Tuxla IN ASSOCIATION WITH

REF. DES. NO.	REFERENCE DRAWING DESCRIPTION	NO.	REVISION HISTORY	REV. AUTH.	REV. DATE	ISSUED FOR	NO.	CURRENT REVISION	ISSUED FOR, AS-BUILT
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S-410
SLOP TANK
2" C. D.



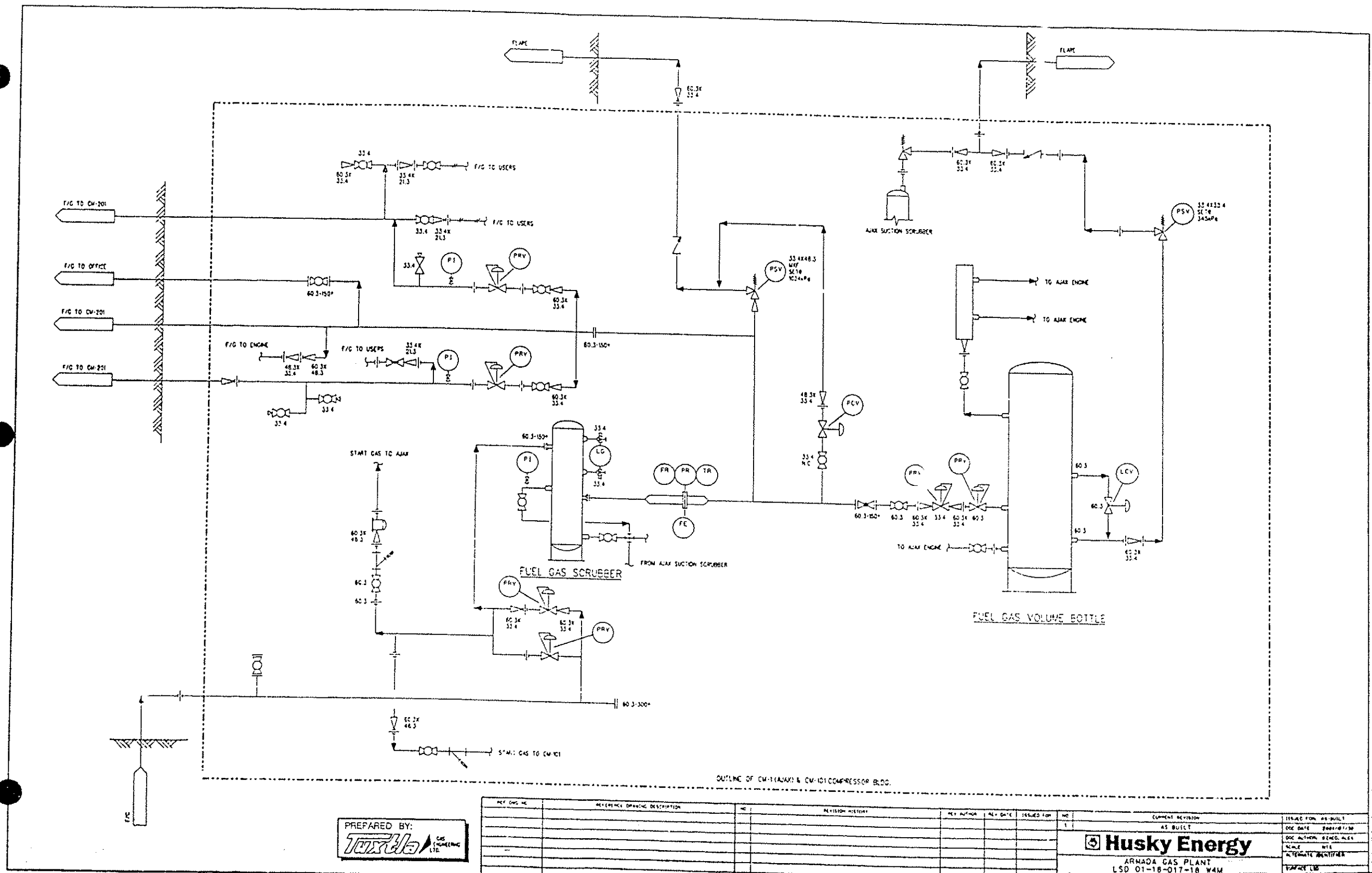
- Flow 60-A-OP-402
- LUBE OIL DRAIN 60-A-513
- Flow 60-A-519
- Flow 104.3-A-OP-403
- Flow 60.3-A-OP-304
- Flow 60.3-A-OP-304
- Flow 60.3-A-OP-302
- Flow 60.3-A-OP-303



PREPARED BY:
TOX

REF. Dwg. NO.	REFERENCE DRAWING DESCRIPTION	NO.	REVISION HISTORY	REF. AUTHOR	REF. DATE	ISSUED FOR	NO.	CURRENT REVISION	ISSUED FROM AS-BUILT
								AS BUILT	DOC DATE 2004-07-26
									DOC AUTHOR: ELMAR ALER
									SCALE: NTS
									ALTERNATE IDENTIFIER
									SURFACE: 150
									DATE: 01-18-01-1804
									DOCUMENT IDENTIFIER: P1-0020

Husky Energy
ARMADA GAS PLANT
LSD 01-18-017-1804
RECYCLE SEP. & SLOP TANK
PROCESS & INSTRUMENTATION DIAGRAM



Armada 1-18-17-18w4 GP SEIM List

Count of Description	Cond		
Class	A	B	Grand Total
ATV		1	1
BUILDING		9	9
BULLET		1	1
CATH_PROT		1	1
COMP_RECIP		6	6
CONTROL_PANEL		6	6
CONTROL_SYSTEM		1	1
DAMPENER		20	20
DEHYDRATOR		1	1
DRUM		2	2
ESD_VALVE		7	7
FILTER		5	5
FIRE_DET		6	6
GAS_DET		8	8
HEAT_EX_AIR_COOLED		19	19
HEAT_EX_SHELL_TUBE		3	3
HEATER_DIR_FIRED		2	2
LIFT		11	11
MCC		1	1
METER		1	1
METER_RUN		6	6
PACKAGE		11	11
PM_ELECTRIC_MOTOR	2	4	6
PM_RECIPROCATING		6	6
PSV	2	44	46
PUMP_CENTRIFUGAL	1	1	2
PUMP_RECIP		2	2
RADIO_SYSTEM		1	1
SCRUBBER		17	17
SEPARATOR		14	14
TANK		5	5
TOWER		1	1
TRANSFORMER		1	1
Grand Total	5	224	229

Equipment List

Armada Gas Plant 01-18-017-18 W4M

Count of Cond		
Description	Class	Total
ATV, QUAD POLARIS	ATV	1
ATV, QUAD POLARIS Total		1
BUILDING, COMPRESSOR	BUILDING	5
BUILDING, COMPRESSOR Total		5
BUILDING, OFFICE	BUILDING	1
BUILDING, OFFICE Total		1
BUILDING, REFRIDGE	BUILDING	1
BUILDING, REFRIDGE Total		1
BUILDING, SALES METER	BUILDING	1
BUILDING, SALES METER Total		1
BUILDING, SEPARATOR	BUILDING	1
BUILDING, SEPARATOR Total		1
BULLET, LPG	BULLET	1
BULLET, LPG Total		1
CATHODIC PROTECTION SYSTEMS, PANEL	CATH_PROT	1
CATHODIC PROTECTION SYSTEMS, PANEL Total		1
COMP - RECIP, AJAX	COMP_RECIP	1
COMP - RECIP, AJAX Total		1
COMP - RECIP, PROPANE	COMP_RECIP	1
COMP - RECIP, PROPANE Total		1
COMP - RECIP, W.S. MW64	COMP_RECIP	1
COMP - RECIP, W.S. MW64 Total		1
COMPRESSOR - RECIPROCATING	COMP_RECIP	1
COMPRESSOR - RECIPROCATING Total		1
COMPRESSOR - RECIPROCATING, JOY	COMP_RECIP	2
COMPRESSOR - RECIPROCATING, JOY Total		2
CONTROL PANEL, 101	CONTROL_PANEL	1
CONTROL PANEL, 101 Total		1
CONTROL PANEL, 201	CONTROL_PANEL	1
CONTROL PANEL, 201 Total		1
CONTROL PANEL, 301	CONTROL_PANEL	1
CONTROL PANEL, 301 Total		1
CONTROL PANEL, 401	CONTROL_PANEL	1

CONTROL PANEL, 401 Total		1
CONTROL PANEL, GAS COMPRESSOR	CONTROL_PANEL	1
CONTROL PANEL, GAS COMPRESSOR Total		1
CONTROL PANEL, REFRIDGE COMPRESSOR	CONTROL_PANEL	1
CONTROL PANEL, REFRIDGE COMPRESSOR Total		1
CONTROL SYSTEM, PLC	CONTROL_SYSTEM	1
CONTROL SYSTEM, PLC Total		1
DAMPENER, 1ST STAGE DISCHARGE	DAMPENER	5
DAMPENER, 1ST STAGE DISCHARGE Total		5
DAMPENER, 1ST STAGE SUCTION	DAMPENER	5
DAMPENER, 1ST STAGE SUCTION Total		5
DAMPENER, 2ND STAGE DISCHARGE	DAMPENER	4
DAMPENER, 2ND STAGE DISCHARGE Total		4
DAMPENER, 2ND STAGE SUCTION	DAMPENER	4
DAMPENER, 2ND STAGE SUCTION Total		4
DAMPENER, 3RD STAGE DISCHARGE	DAMPENER	1
DAMPENER, 3RD STAGE DISCHARGE Total		1
DAMPENER, 3RD STAGE SUCTION	DAMPENER	1
DAMPENER, 3RD STAGE SUCTION Total		1
DEHYDRATOR, GLYCOL	DEHYDRATOR	1
DEHYDRATOR, GLYCOL Total		1
DRUM, ODORANT	DRUM	1
DRUM, ODORANT Total		1
DRUM, PROPANE SURGE	DRUM	1
DRUM, PROPANE SURGE Total		1
ENGINE, GAS AJAX DPC230	PM_RECIPROCATING	1
ENGINE, GAS AJAX DPC230 Total		1
ENGINE, GAS CAT 3306NA	PM_RECIPROCATING	1
ENGINE, GAS CAT 3306NA Total		1
ENGINE, GAS CAT 3512 LE	PM_RECIPROCATING	1
ENGINE, GAS CAT 3512 LE Total		1
ENGINE, GAS WAUKESHA 7042GU	PM_RECIPROCATING	2
ENGINE, GAS WAUKESHA 7042GU Total		2
ENGINE, GAS WHITE SUPERIOR 8GTL	PM_RECIPROCATING	1
ENGINE, GAS WHITE SUPERIOR 8GTL Total		1
ESD VALVE, AJAX INLET GAS LINE	ESD_VALVE	1
ESD VALVE, AJAX INLET GAS LINE Total		1

ESD VALVE, C101 & C201 COMPRESSOR INLET	ESD_VALVE	1
ESD VALVE, C101 & C201 COMPRESSOR INLET Total		1
ESD VALVE, C301 COMPRESSOR INLET GAS LIN	ESD_VALVE	1
ESD VALVE, C301 COMPRESSOR INLET GAS LIN Total		1
ESD VALVE, DISCHARGE	ESD_VALVE	1
ESD VALVE, DISCHARGE Total		1
ESD VALVE, SALES GAS	ESD_VALVE	2
ESD VALVE, SALES GAS Total		2
ESD VALVE, SALES LINE	ESD_VALVE	1
ESD VALVE, SALES LINE Total		1
FILTER, 1ST STAGE INLET	FILTER	1
FILTER, 1ST STAGE INLET Total		1
FILTER, FUEL GAS	FILTER	3
FILTER, FUEL GAS Total		3
FILTER, GLYCOL # 1	FILTER	1
FILTER, GLYCOL # 1 Total		1
FILTER, GLYCOL # 2	FILTER	1
FILTER, GLYCOL # 2 Total		1
FIRE DETECTION	FIRE_DET	2
FIRE DETECTION Total		2
FIRE DETECTION, #1	FIRE_DET	4
FIRE DETECTION, #1 Total		4
GAS DETECTION	GAS_DET	2
GAS DETECTION Total		2
GAS DETECTION, #1	GAS_DET	4
GAS DETECTION, #1 Total		4
GAS DETECTION, H2S	GAS_DET	1
GAS DETECTION, H2S Total		1
GAS DETECTION, H2S #1	GAS_DET	1
GAS DETECTION, H2S #1 Total		1
GAS DETECTION, H2S HEADER 1-1	GAS_DET	1
GAS DETECTION, H2S HEADER 1-1 Total		1
HEATER - DIRECT FIRED, (NON CODE)	HEATER_DIR_FIRED	1
HEATER - DIRECT FIRED, (NON CODE) Total		1
HEATER - DIRECT FIRED, GAS BUR(NON CODE)	HEATER_DIR_FIRED	1
HEATER - DIRECT FIRED, GAS BUR(NON CODE) Total		1
HOIST, 1 TON OVERHEAD # 1	LIFT	1

HOIST, 1 TON OVERHEAD # 1 Total		1
HOIST, 3 TON OVERHEAD # 1	LIFT	3
HOIST, 3 TON OVERHEAD # 1 Total		3
HOIST, 3 TON OVERHEAD # 2	LIFT	3
HOIST, 3 TON OVERHEAD # 2 Total		3
HOIST, OVERHEAD # 1	LIFT	1
HOIST, OVERHEAD # 1 Total		1
HOIST, OVERHEAD BRIDGE	LIFT	3
HOIST, OVERHEAD BRIDGE Total		3
HT EXCH - AIR COOLED, 1ST STAGE DISCH	HEAT_EX_AIR_COOLED	3
HT EXCH - AIR COOLED, 1ST STAGE DISCH Total		3
HT EXCH - AIR COOLED, 2ND STAGE DISCH	HEAT_EX_AIR_COOLED	4
HT EXCH - AIR COOLED, 2ND STAGE DISCH Total		4
HT EXCH - AIR COOLED, 3RD STAGE DISCH	HEAT_EX_AIR_COOLED	1
HT EXCH - AIR COOLED, 3RD STAGE DISCH Total		1
HT EXCH - AIR COOLED, EJW (NON CODE)	HEAT_EX_AIR_COOLED	4
HT EXCH - AIR COOLED, EJW (NON CODE) Total		4
HT EXCH - AIR COOLED, EJW(NON CODE	HEAT_EX_AIR_COOLED	1
HT EXCH - AIR COOLED, EJW(NON CODE Total		1
HT EXCH - AIR COOLED, ENG AUX (NON CODE)	HEAT_EX_AIR_COOLED	1
HT EXCH - AIR COOLED, ENG AUX (NON CODE) Total		1
HT EXCH - AIR COOLED, GAS	HEAT_EX_AIR_COOLED	1
HT EXCH - AIR COOLED, GAS Total		1
HT EXCH - AIR COOLED, PROPANE CONDENSER	HEAT_EX_AIR_COOLED	1
HT EXCH - AIR COOLED, PROPANE CONDENSER Total		1
HT EXCH - AIR COOLED, SALES GAS	HEAT_EX_AIR_COOLED	1
HT EXCH - AIR COOLED, SALES GAS Total		1
HT EXCH - S&T, 1ST STAGE	HEAT_EX_SHELL_TUBE	1
HT EXCH - S&T, 1ST STAGE Total		1
HT EXCH - S&T, CHILLER	HEAT_EX_SHELL_TUBE	1
HT EXCH - S&T, CHILLER Total		1
HT EXCH - S&T, GAS / GAS	HEAT_EX_SHELL_TUBE	1
HT EXCH - S&T, GAS / GAS Total		1
HT EXCH - S&T, HEAT TUBE SIDE	HEAT_EX_SHELL_TUBE	1
HT EXCH - S&T, HEAT TUBE SIDE Total		1
MCC, PANEL	MCC	1
MCC, PANEL Total		1

METER RUN	METER_RUN	2
METER RUN Total		2
METER RUN, CONDENSATE SEPARATOR	METER_RUN	1
METER RUN, CONDENSATE SEPARATOR Total		1
METER RUN, FUEL GAS	METER_RUN	1
METER RUN, FUEL GAS Total		1
METER RUN, INLET GAS	METER_RUN	1
METER RUN, INLET GAS Total		1
METER RUN, SALES	METER_RUN	1
METER RUN, SALES Total		1
METER, INLET GAS	METER	1
METER, INLET GAS Total		1
MOTOR, ELECTRIC, # 1 GLYCOL PUMP	PM_ELECTRIC_MOTOR	1
MOTOR, ELECTRIC, # 1 GLYCOL PUMP Total		1
MOTOR, ELECTRIC, # 2 GLYCOL PUMP	PM_ELECTRIC_MOTOR	1
MOTOR, ELECTRIC, # 2 GLYCOL PUMP Total		1
MOTOR, PROPANE CONDESOR NORTH FAN	PM_ELECTRIC_MOTOR	1
MOTOR, PROPANE CONDESOR NORTH FAN Total		1
MOTOR, PROPANE CONDESOR SOUTH FAN	PM_ELECTRIC_MOTOR	1
MOTOR, PROPANE CONDESOR SOUTH FAN Total		1
MOTOR, SALES GAS, 1ST STAGE C301	PM_ELECTRIC_MOTOR	2
MOTOR, SALES GAS, 1ST STAGE C301 Total		2
PACKAGE, BULLET - LPG	PACKAGE	1
PACKAGE, BULLET - LPG Total		1
PACKAGE, COMPRESSOR 401	PACKAGE	1
PACKAGE, COMPRESSOR 401 Total		1
PACKAGE, COMPRESSOR AJAX	PACKAGE	1
PACKAGE, COMPRESSOR AJAX Total		1
PACKAGE, COMPRESSOR C101	PACKAGE	1
PACKAGE, COMPRESSOR C101 Total		1
PACKAGE, COMPRESSOR C201	PACKAGE	1
PACKAGE, COMPRESSOR C201 Total		1
PACKAGE, COMPRESSOR C301	PACKAGE	1
PACKAGE, COMPRESSOR C301 Total		1
PACKAGE, CYCLONE SEPARATOR	PACKAGE	1
PACKAGE, CYCLONE SEPARATOR Total		1
PACKAGE, DEHYDRATION	PACKAGE	1

PACKAGE, DEHYDRATION Total		1
PACKAGE, OFFICE / SHOP	PACKAGE	1
PACKAGE, OFFICE / SHOP Total		1
PACKAGE, REFRIGERATION #1	PACKAGE	1
PACKAGE, REFRIGERATION #1 Total		1
PACKAGE, REFRIGERATION #2	PACKAGE	1
PACKAGE, REFRIGERATION #2 Total		1
PACKAGE, SALES METER	PACKAGE	1
PACKAGE, SALES METER Total		1
PSV, # 1 FUEL GAS SCRUBBER	PSV	1
PSV, # 1 FUEL GAS SCRUBBER Total		1
PSV, # 1 GLYCOL PUMP NORTH	PSV	1
PSV, # 1 GLYCOL PUMP NORTH Total		1
PSV, # 1 GLYCOL PUMP SOUTH	PSV	1
PSV, # 1 GLYCOL PUMP SOUTH Total		1
PSV, # 2 FUEL GAS SCRUBBER	PSV	1
PSV, # 2 FUEL GAS SCRUBBER Total		1
PSV, # 2 GLYCOL PUMP CENTER	PSV	1
PSV, # 2 GLYCOL PUMP CENTER Total		1
PSV, 1ST STAGE DISCHARGE	PSV	5
PSV, 1ST STAGE DISCHARGE Total		5
PSV, 1ST STAGE DISCHARGE COOLER	PSV	1
PSV, 1ST STAGE DISCHARGE COOLER Total		1
PSV, 1ST STAGE INLET FILTER	PSV	1
PSV, 1ST STAGE INLET FILTER Total		1
PSV, 1ST STAGE SUCTION SCRUBBER	PSV	1
PSV, 1ST STAGE SUCTION SCRUBBER Total		1
PSV, 2ND STAGE DISCHARGE	PSV	4
PSV, 2ND STAGE DISCHARGE Total		4
PSV, 2ND STAGE SUCTION	PSV	1
PSV, 2ND STAGE SUCTION Total		1
PSV, 2ND STAGE SUCTION SCRUBBER	PSV	1
PSV, 2ND STAGE SUCTION SCRUBBER Total		1
PSV, 301 RUN GAS	PSV	1
PSV, 301 RUN GAS Total		1
PSV, 3RD STAGE DISCHARGE	PSV	1
PSV, 3RD STAGE DISCHARGE Total		1

PSV, BULLET - COMBO JOE	PSV	5
PSV, BULLET - COMBO JOE Total		5
PSV, C-1 INLET SEPARATOR	PSV	1
PSV, C-1 INLET SEPARATOR Total		1
PSV, CONDENSATE STABILIZER	PSV	1
PSV, CONDENSATE STABILIZER Total		1
PSV, FUEL GAS	PSV	1
PSV, FUEL GAS Total		1
PSV, FUEL GAS FILTER	PSV	1
PSV, FUEL GAS FILTER Total		1
PSV, FUEL GAS SCRUBBER	PSV	2
PSV, FUEL GAS SCRUBBER Total		2
PSV, FUEL GAS SCRUBBER # 1	PSV	1
PSV, FUEL GAS SCRUBBER # 1 Total		1
PSV, FUEL GAS SCRUBBER # 2	PSV	1
PSV, FUEL GAS SCRUBBER # 2 Total		1
PSV, FUEL GAS SYSTEM	PSV	1
PSV, FUEL GAS SYSTEM Total		1
PSV, GLYCOL FILTER	PSV	1
PSV, GLYCOL FILTER Total		1
PSV, GLYCOL SEPARATOR	PSV	1
PSV, GLYCOL SEPARATOR Total		1
PSV, INLET SEPARATOR	PSV	2
PSV, INLET SEPARATOR Total		2
PSV, LOW TEMP SEPARATOR	PSV	1
PSV, LOW TEMP SEPARATOR Total		1
PSV, LOW TEMP SEPERATOR	PSV	1
PSV, LOW TEMP SEPERATOR Total		1
PSV, PROPANE CONDENSOR	PSV	1
PSV, PROPANE CONDENSOR Total		1
PSV, PROPANE INLET	PSV	1
PSV, PROPANE INLET Total		1
PSV, PROPANE SUCTION SCRUBBER	PSV	2
PSV, PROPANE SUCTION SCRUBBER Total		2
PSV, PROPANE SURGE TANK	PSV	1
PSV, PROPANE SURGE TANK Total		1
PSV, SEPARATOR	PSV	1

PSV, SEPARATOR Total		1
PSV, SEPARATOR FUEL	PSV	1
PSV, SEPARATOR FUEL Total		1
PSV, START GAS	PSV	3
PSV, START GAS Total		3
PUMP - CONTROLLED VOLUME, # 2 GLYCOL	PUMP_CONTROL_VOL	1
PUMP - CONTROLLED VOLUME, # 2 GLYCOL Total		1
PUMP - CONTROLLED VOLUME, # 1 GLYCOL	PUMP_CONTROL_VOL	1
PUMP - CONTROLLED VOLUME, # 1 GLYCOL Total		1
PUMP - RECIP, GLYCOL # 1	PUMP_RECIP	1
PUMP - RECIP, GLYCOL # 1 Total		1
PUMP - RECIP, GLYCOL # 2	PUMP_RECIP	1
PUMP - RECIP, GLYCOL # 2 Total		1
RADIO SYSTEM, RADIO REPEATER	RADIO_SYSTEM	1
RADIO SYSTEM, RADIO REPEATER Total		1
SCRUBBER, # 1 FUEL GAS	SCRUBBER	1
SCRUBBER, # 1 FUEL GAS Total		1
SCRUBBER, # 2 FUEL GAS	SCRUBBER	1
SCRUBBER, # 2 FUEL GAS Total		1
SCRUBBER, # 3 FUEL GAS	SCRUBBER	1
SCRUBBER, # 3 FUEL GAS Total		1
SCRUBBER, 1ST STAGE SUCTION	SCRUBBER	4
SCRUBBER, 1ST STAGE SUCTION Total		4
SCRUBBER, 2ND STAGE CYCLONE	SCRUBBER	1
SCRUBBER, 2ND STAGE CYCLONE Total		1
SCRUBBER, 2ND STAGE SUCTION	SCRUBBER	3
SCRUBBER, 2ND STAGE SUCTION Total		3
SCRUBBER, 3RD STAGE SUCTION	SCRUBBER	1
SCRUBBER, 3RD STAGE SUCTION Total		1
SCRUBBER, FUEL GAS	SCRUBBER	4
SCRUBBER, FUEL GAS Total		4
SCRUBBER, PROPANE SUCTION	SCRUBBER	1
SCRUBBER, PROPANE SUCTION Total		1
SEPARATOR, 1ST STAGE SUCTION	SEPARATOR	1
SEPARATOR, 1ST STAGE SUCTION Total		1
SEPARATOR, COALESCING	SEPARATOR	1
SEPARATOR, COALESCING Total		1

SEPARATOR, CONDENSATE / GLYCOL	SEPARATOR	1
SEPARATOR, CONDENSATE / GLYCOL Total		1
SEPARATOR, CYCLONE	SEPARATOR	1
SEPARATOR, CYCLONE Total		1
SEPARATOR, INLET	SEPARATOR	4
SEPARATOR, INLET Total		4
SEPARATOR, LOW TEMP	SEPARATOR	2
SEPARATOR, LOW TEMP Total		2
SEPARATOR, PROPANE DE-OILER	SEPARATOR	1
SEPARATOR, PROPANE DE-OILER Total		1
SEPARATOR, STOCK	SEPARATOR	2
SEPARATOR, STOCK Total		2
TANK, 1000 GALLON GAS STORAGE	TANK	1
TANK, 1000 GALLON GAS STORAGE Total		1
TANK, A/G 100 BBL LUBE OIL	TANK	1
TANK, A/G 100 BBL LUBE OIL Total		1
TANK, A/G 100 BBL STORAGE	TANK	1
TANK, A/G 100 BBL STORAGE Total		1
TANK, A/G 200 BBL	TANK	1
TANK, A/G 200 BBL Total		1
TANK, AJAX BLDG U/G STORAGE 5 M3	TANK	1
TANK, AJAX BLDG U/G STORAGE 5 M3 Total		1
TANK, FKO U/G STORAGE 8000 L	TANK	1
TANK, FKO U/G STORAGE 8000 L Total		1
TANK, 1000 BBL CONDENSATE	TANK	1
TANK, 1000 BBL CONDENSATE Total		1
TOWER, CONDENSATE STABILIZER	TOWER	1
TOWER, CONDENSATE STABILIZER Total		1
TRANSFORMERS, PANEL RECTIFIER	TRANSFORMER	1
TRANSFORMERS, PANEL RECTIFIER Total		1
Grand Total		237



Appendix F



707 6th Avenue S.W.
Box 6525, Station D
Calgary, Alberta, Canada
T2P 3G7

Bus: (403) 298-6111
Fax: (403) 750-1950

September 8, 2004

Alberta Energy & Utilities Board
640 - 5 Avenue S.W.
Calgary, Alberta
T2P 3G4

Attention: Facilities Application Processor

RE: Application to Amend the Husky Armada Gas Plant with a Permanent Compressor

Dear Madam/Sir:

The enclosed submission is to add the compressor currently covered by a temporary licence to the gas plant licence and let the temporary licence expire. There is no actual change to any licence process or equipment on site.

Currently, there are two licences covering the facility at Husky Oil Operations Armada site 1-18-17-18 W4. The Gas Plant Licence Number F2226 includes the gas plant equipment and five (5) compressors. Compressor station Licence Number F29848 is a temporary one-year licence for one gas compressor.

Industry and residents have been notified that the temporary compressor is to be licenced as part of the permanent facilities, and there have been no objections.

Although not shown on the plan, there are no surface developments, watercourses, or vegetation within 100 metres of the lease boundary.

If you require any additional information, please call me at (403) 750-1625 or email nasser.awada@huskyenergy.ca.

Yours truly,
HUSKY OIL OPERATIONS LIMITED

A handwritten signature in black ink, appearing to read "Nasser Awada", written over a horizontal line.

Nasser Awada
Regulatory Technician



Appendix G

EUB SPILL / COMPLAINT INCIDENTS FOR 01-18-017-18W4M			
COMPLAINT - JANUARY 14, 1988 - INCIDENT NUMBER: 19880082			
EUB NOTIFIED:	JANUARY 14, 1988	INCIDENT COMPLETE:	JANUARY 27, 1994
LICENCE #:			
LICENCEE:	COCHRANE RESOURCES LTD.		
SOURCE:	UNKNOWN		
SOURCE IN COMPLAINEE?			
CAUSE:	CONVERSION		
STRIKE AREA:	EYRMOR	FIELD CENTRE:	MIDNAPORE
CONCERNS:	ODOURS - OTHER		

OPTIONS
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[Print Screen](#)
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Appendix H

Husky V7 Production SURFACE ABSTRACT

File Number: S64484-00

Base Information

File Status:	Permanent	Status Date:	DEC 31, 2003
Lessor Type:	Fee Land	Lease Number:	MARATHON CANADA
Document Type:	Fee Simple	Document Date:	JUN 07, 1996
Admin Company:	Marathon Canada Limited	Effective Date:	JUN 07, 1996
Division:	Southern	Lease Term:	0 Year(s)
Expiry Date:		Renewed:	No
Area:	6243 - QUEENSTOWN-MCL (AB)	Extension Date:	
How Acquired:	Nugas Acquisition	Acquired Date:	JUN 01, 1997
Lease Operator:	HUSKY OIL OP	Lease Payor:	HUSKY OIL OP
Rental Status:		Joint Venture Billing:	No
Rental Period:	Annual	Total Rental:	\$0.00 <input type="checkbox"/> GST Applies
Rental Date:		Total Hectares:	1.860
Surrender Days:		Total Acres:	4.596
Reclaim Number:		Application Date:	
Reclaim Date:		Account Number:	
Prev Doc Number:	S11318		

Lessor / Depository

Occ	Lessor	Amount	Interest
	Total Rental:	\$0.00	
1	MARATHON CANADA	\$0.00	100.00000000
	Withhold Tax:		
	MARATHON CANADA LIMITED		
	1000 - 444 - 7 AVENUE SW		
	CALGARY AB		
	T2P 0X8 CA		
	1 Lessor(s)	\$0.00	100.00000000

Legal Description

Land Description

TWP 17 RGE 18 W4M SE/4 SEC 18

Land Use

Type: Plantsite

Description: ARMADA GAS PLANT @ 1-18-17-18 W4M

Construct / Reclaim

Compensation

Registration

Document Type	Document Date	Document Number	Withdrawal Date
Reg Survey Plan	00, 0000	801 0628	00, 0000
District:			

Remarks

Husky V7 Production SURFACE ABSTRACT

File Number: S64484-00

Occ	Remark Type	Remark Date
1	Miscellaneous	
	FEE SIMPLE LANDS PURCHASED FROM AE FOR \$1500.00/ACRE AE HAS RIGHT TO RE-ACQUIRE LANDS FOR SAME PRICE IF LANDS NO LONGER UTILIZED FOR COMPRESSOR SITE THIS FILE CONTAINS PLAN 8010628 FOR COMPRESSOR SITE ROW FILE STAT DECLARATION RE CAVEAT LAPSE	
2	Registration Number	
	(REGISTERED PLAN NUMBER) 8510440	

Name Cross Reference

Obligations

Working Interest

Operating Contract: C000003 AA

WI - Working Interest

(Contract Owned)

Eff Date: May/05/2004 DOI Id: 1164306

Occ	Partner	Short Name	Penalty	Percent	Partner Type	Trustee Name
1	100001	HUSKY OIL OP		100.00000000		
	Comment:			100.00000000		\$0.00

Related Contracts

Contract File No	File Status	Contract Type	Contract Date	Effective Date
C000003	COMP	JOININTAGR	Jan 01, 1994	Jan 01, 1994
Related:		Comments:		
C000003	AA COMP	JOININTAGR	Jan 01, 1994	Jan 01, 1994
Related: OPERATING		Comments:		
C016356	COMP	SALE-AGR	Sep 15, 1997	Jun 01, 1997
Related:		Comments:		

Related Mineral

Related Surface

Related Road Use

Wells

Rental Distribution