

# **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 – 7<sup>th</sup> 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

- Appendix A: Alberta Environment's *Wellsite Reclamation Certificate Application Form – Revised 2007*
- 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):

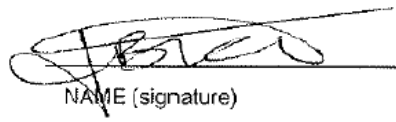
The Husky Armada was a sweet gas plant surveyed in 1979 and was built sometime between 1981 and 1982. During the review of the available information the following facilities were noted on-site: a glycol and condensate separator, as well as numerous above and underground tanks. Other facilities were noted 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 IHS  
Datum: NAD27  
Vol 12 No 11 Nov 16, 2007  
(403) 270-1616

Author: Juchey  
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.		

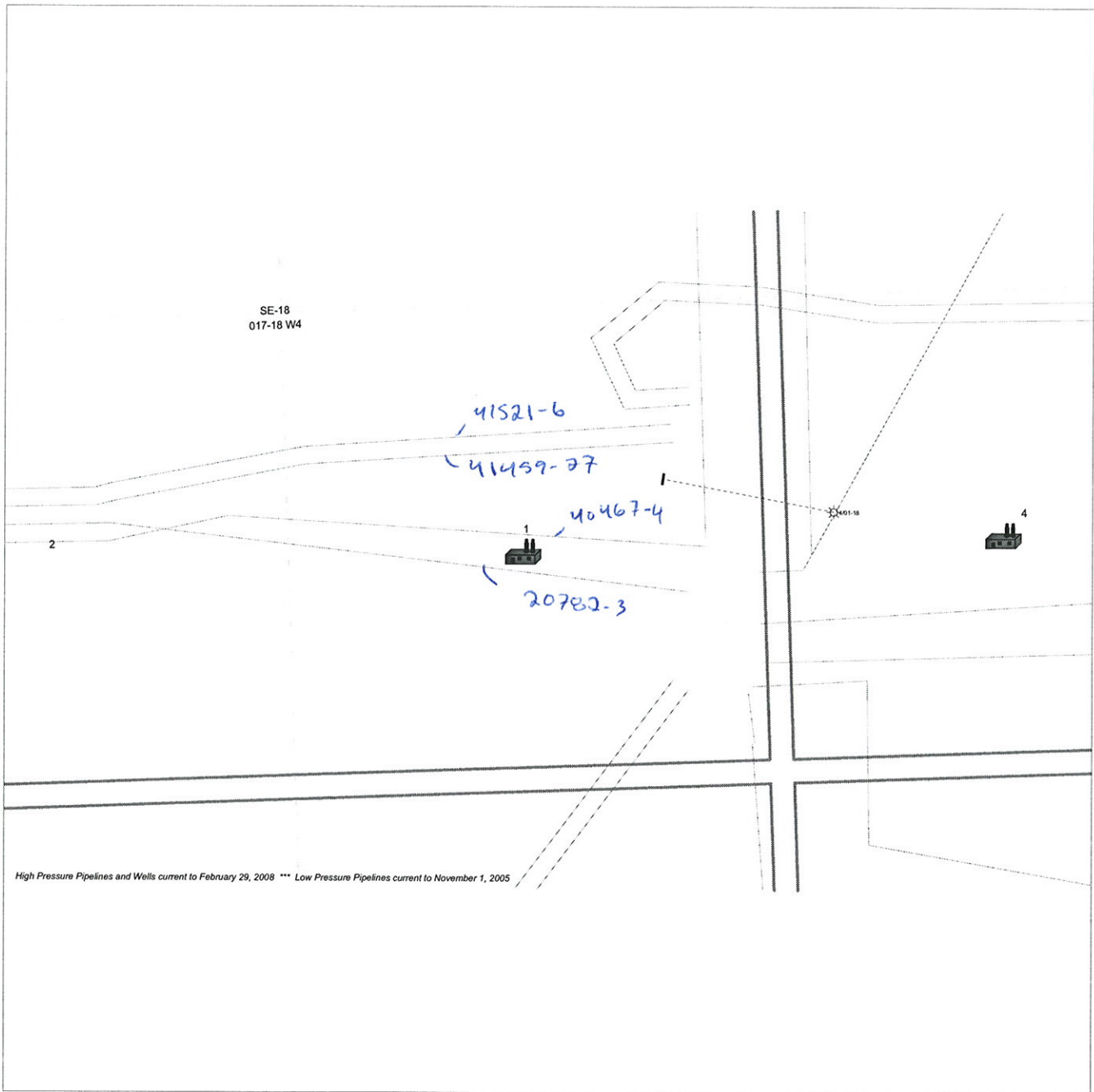
**COMPRESSOR STATION**

TYPE:	COMPRESSOR STATION		
STATUS:	ACTIVE	LICENCE #:	F29848

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



01-18-017-18 W4M



### Wellheads

- ✱ Abandoned Wellhead
- ✱ Suspended Gas Wellhead
- ✱ Suspended Oil Wellhead
- ✱ Flowing Gas Wellhead
- ✱ Location Wellhead
- ✱ Flowing Oil Wellhead
- ✱ Miscellaneous Wellhead
- ✱ Water Wellhead
- ✱ Well Downhole Location
- ✱ Newly Licenced Well
- ✱ Newly Spudded Well

### High Pressure Pipelines

- \_\_\_\_\_ Gas Pipeline  
 \_\_\_\_\_ Oil Pipeline  
 \_\_\_\_\_ Water Pipeline  
 \_\_\_\_\_ LVP/HVP Pipeline  
 \_\_\_\_\_ Foreign Pipeline  
 (Only when a company is specified.)

### Low Pressure Pipelines

- ## Gas Co-op Pipeline

EUB DATA		ATTACHED FILES		Close Screen	
<b>EUB PIPELINE INFORMATION CURRENT TO FEBRUARY 29, 2008</b>					
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				
<b>OPTIONS</b>					
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>APRIL 20, 2004</td></tr><tr><td>ABACUS #:</td><td>62812</td><td>LICENCE DATE:</td><td>APRIL 20, 2005</td></tr><tr><td>COMPANY:</td><td colspan="3">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>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				<b>OPTIONS</b>	
				LICENCE/LINE #:	40467 - 4	PERMIT DATE:	APRIL 20, 2004																																																												
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EUB DATA		ATTACHED FILES		Close Screen																																																																			
<div style="text-align: center;"><b>EUB PIPELINE INFORMATION</b> <b>CURRENT TO FEBRUARY 29, 2008</b></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				<b>OPTIONS</b>	
				LICENCE/LINE #:	41459 - 27	PERMIT DATE:	NOVEMBER 3, 2003																																																																
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<div><b>EUB PIPELINE INFORMATION</b> <b>CURRENT TO FEBRUARY 29, 2008</b></div> <table border="1"><tr><td>LICENCE/LINE #:</td><td>41521 - 6</td><td>PERMIT DATE:</td><td colspan="3">JULY 25, 2006</td></tr><tr><td>ABACUS #:</td><td>55190</td><td>LICENCE DATE:</td><td colspan="3"></td></tr><tr><td>COMPANY:</td><td colspan="5">ENDEV ENERGY INC.</td></tr><tr><td>FROM LOCATION:</td><td>01-14-017-19 W4M PL</td><td>TO LOCATION:</td><td colspan="3">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 colspan="2">O</td></tr><tr><td>SUBSTANCE:</td><td>NG</td><td>H2S:</td><td>0 mol/kmol</td><td colspan="2">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="3">Z245.1</td></tr><tr><td>GRADE:</td><td>2901</td><td>MOP:</td><td>4960 kPa</td><td colspan="2">719 psi</td></tr><tr><td>JOINTS:</td><td>W</td><td>INTL COATING:</td><td colspan="3">U</td></tr><tr><td>STRESS LEVEL:</td><td>39 %</td><td>ENVIRONMENT:</td><td colspan="3"></td></tr><tr><td>ORIGINAL PERMIT DATE:</td><td colspan="2"></td><td>CONST. DATE:</td><td colspan="2"></td></tr><tr><td>ORIGINAL LICENCE/LINE #:</td><td colspan="2">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				
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						ORIGINAL LICENCE/LINE #:	0 - 0																																																																												

1/18 - 17-18-w4

## Legend



- Industrial Sites
- Industrial Sites
- Open Pits or Mines
- Open Pits or Mines
- Runways
- Abandoned Runway
- Active Runway
- Heliports
- Active Heliports
- Bridges
- Bridges
- Well Sites - Active
- Active Oil or Gas
- Active Water
- Well Sites - Abandoned
- Abandoned Oil or Gas
- Abandoned Water
- Railways
- Powerlines
- Pipelines
- Cutlines & Trails
- Clearing Trail
- ATV Trail
- ATV Indefinite Trail
- Cutline Trail
- Other Roads
- Unclassified Road
- Unimproved Road
- Winter Road
- Truck Trail
- Ferry Route
- Ford Winter Crossing
- Interchange Ramp
- Gravel Roads
- 1 Lane Road

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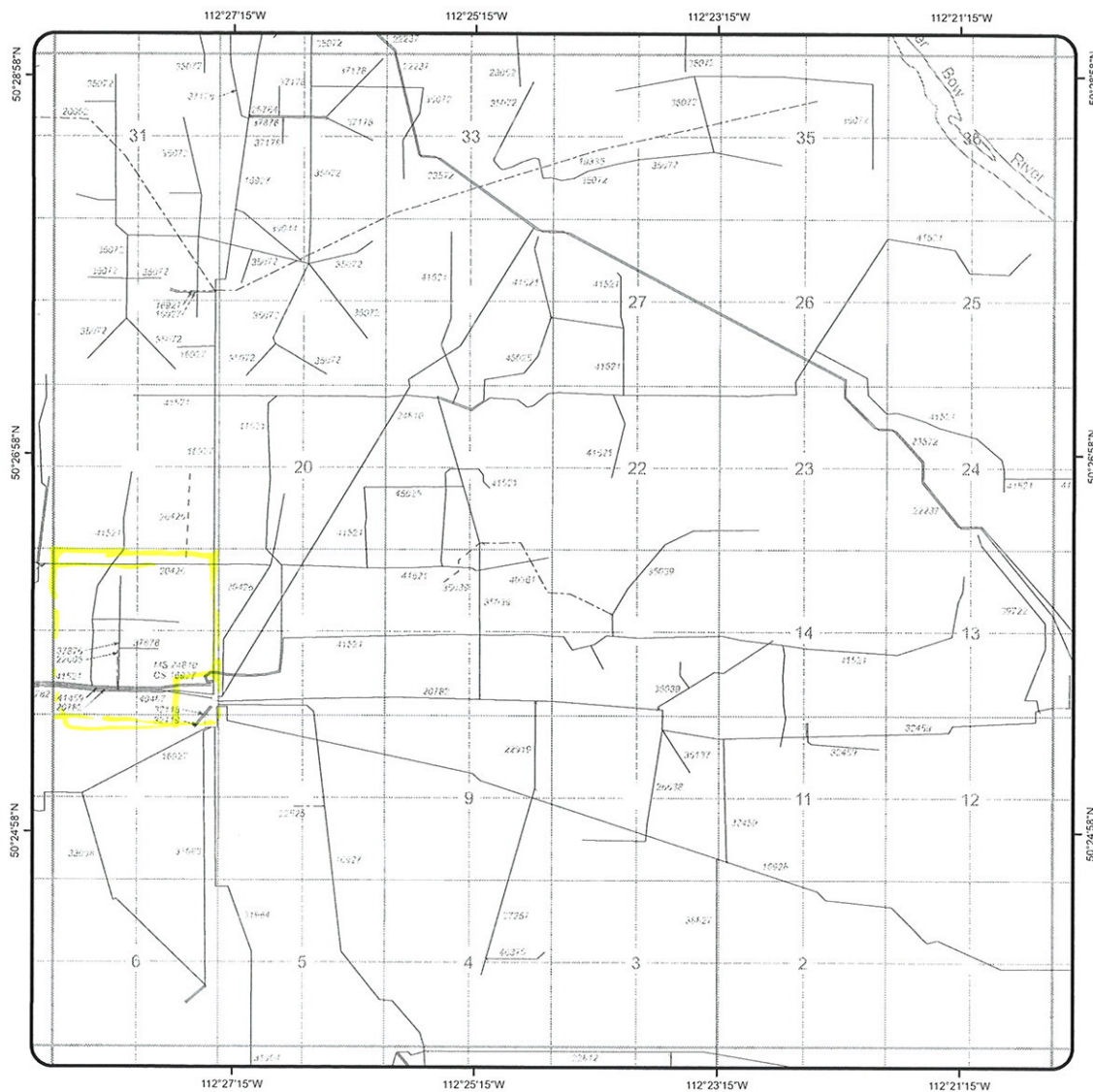
Wellsite and raw pipeline data provided by IHS Energy (Canada) Ltd.

Base data provided by Spatial Data Warehouse Ltd.

Information as depicted is subject to change, therefore the Government of Alberta assumes no responsibility for discrepancies at time of use.

Scale: 1:24,999

© 2006 Government of Alberta



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**



18  
17-18-4

Cm 1/4 Line

4.6 H.A.D.J.  
270° 05' 35"

15.00

0° 05' 20"  
652.41  
652.41  
187° 05' 35"

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

HECTARES ACRES

AREA REQ'D FOR P/L R/W = 0.979 2.419

AREA REQ'D FOR PLANT SITE R/W = 1.858 4.591

TOTAL = 2.837 7.010

117.42  
270° 04' 20"  
152.40  
180° 05' 58"  
105.60  
4572  
121.97  
C.S. ME.

20' 12" C.C.

95.53  
270° 04' 20"

95.56  
270° 04' 20"

803.95  
270° 03' 15"

824.07  
0° 03' 15"

Fd. No M.R. Pk. - 651 Pl. I.  
C.S. (N. 1/4 7)

Fd. No M.R.  
Pl. II (N.E. 7)

TITLE NUMBER: 34 X 68

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 19<sup>th</sup> day of July 1979

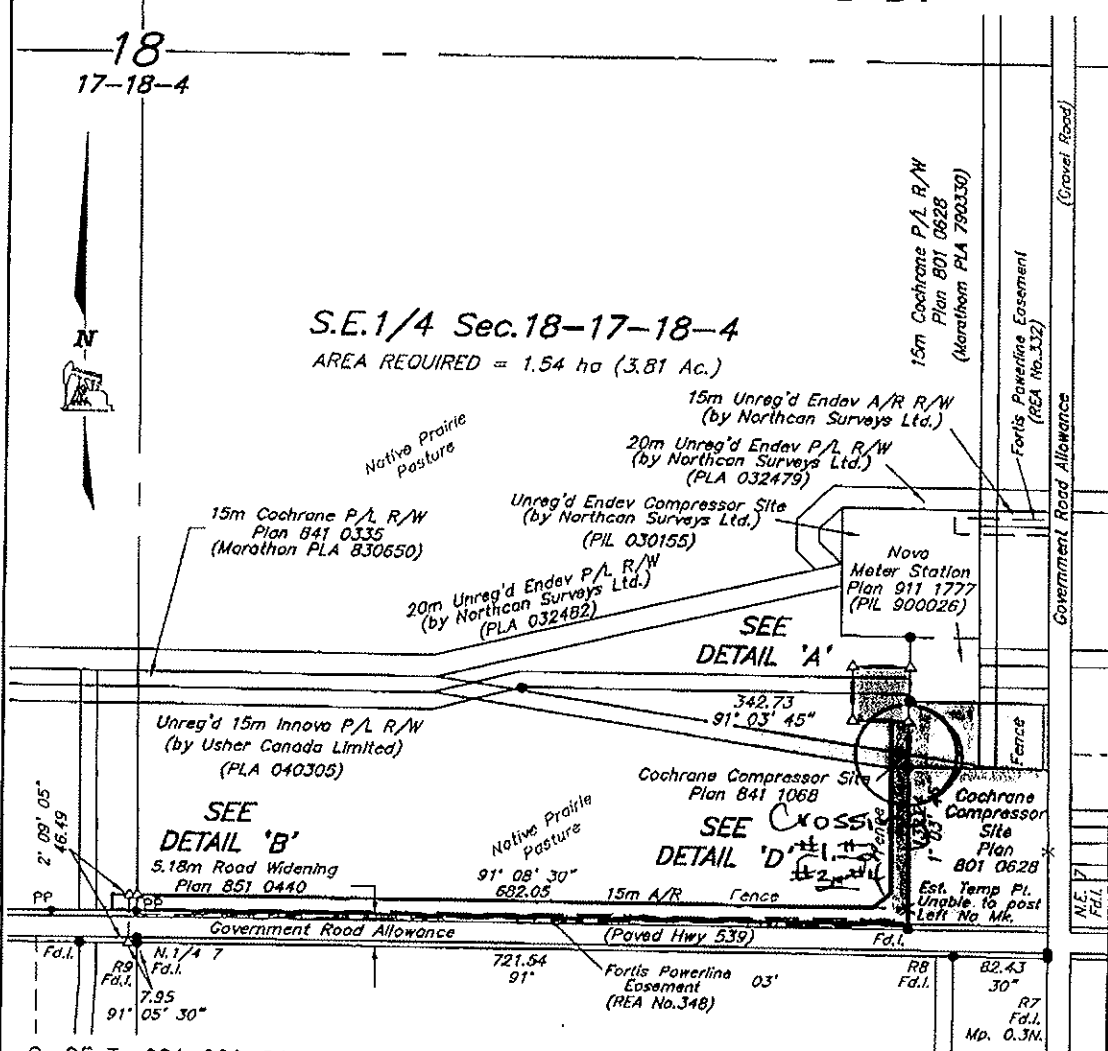
ALBERTA LAND SURVEYOR

File No. LA 269 -79



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

# INNOVA EXPLORATION LTD.



C. OF T. 991 220 642 +19

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

OWNER(S): CROWN

I/We, the landowner(s)/occupant(s), consent to the location of the well site and access road as shown and have no objections to the A.E.U.B. issuing a License.

DATED on the \_\_\_\_ day of \_\_\_\_, 2005.

Witness

Landowner/Occupant

C. OF T. 55X237

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

OWNER(S): CROWN

I/We, the landowner(s)/occupant(s), consent to the location of the well site and access road as shown and have no objections to the A.E.U.B. issuing a License.

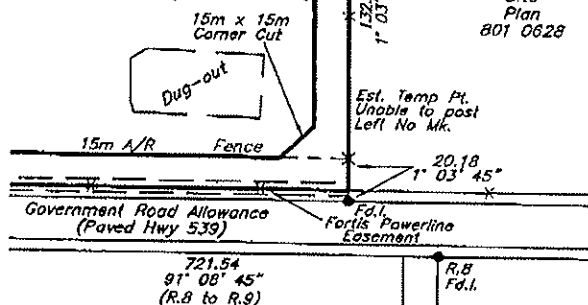
DATED on the \_\_\_\_ day of \_\_\_\_, 2005.

Witness

Landowner/Occupant

DETAIL 'D'

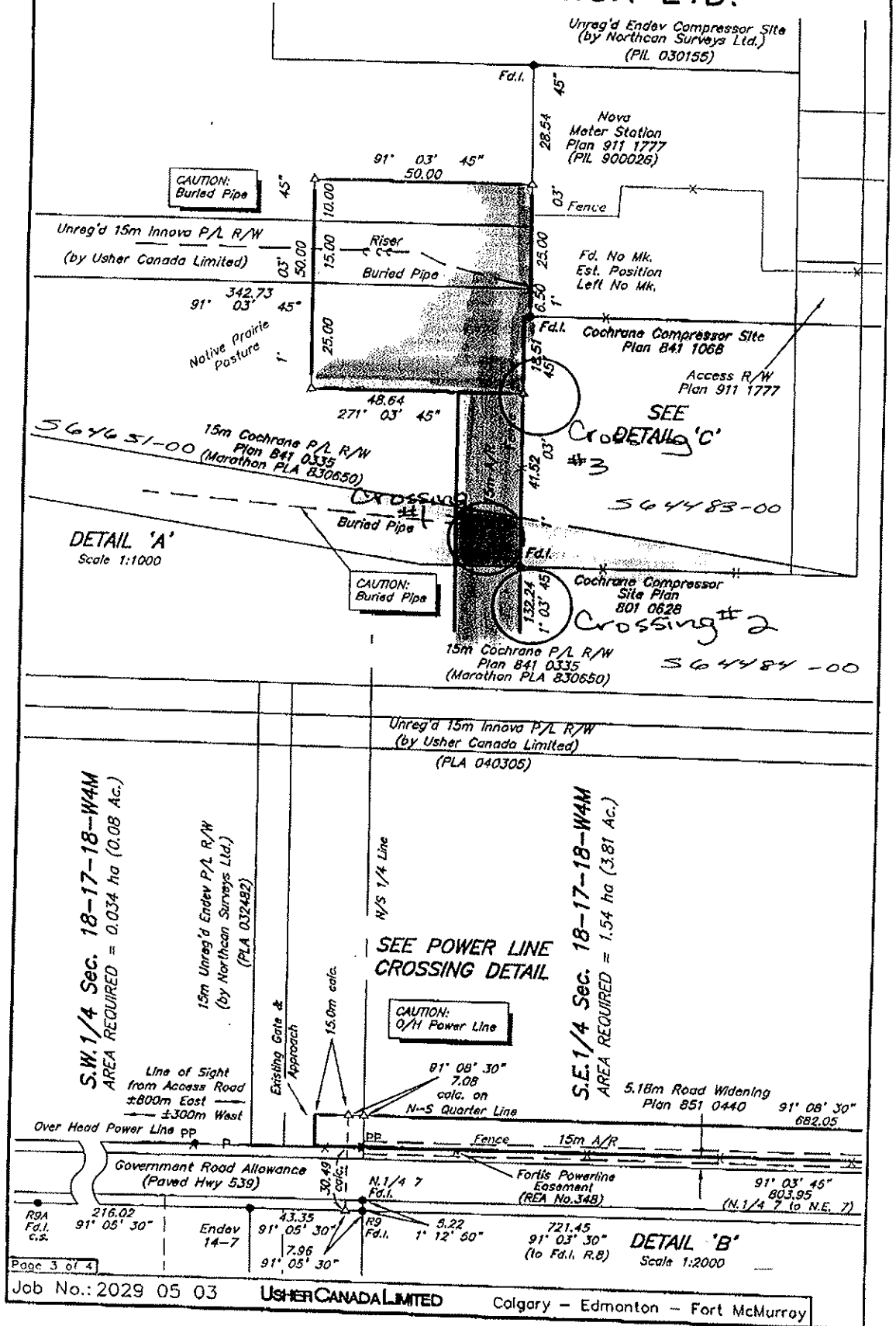
Scale 1:2500



Scale 1:5000

Survey monuments found are shown thus:   
 Spikes placed shown thus:   
 Points calculated shown thus:   
 Portions referred to are shown thus:   
 Distances are in metres and decimals thereof.


# INNOVA EXPLORATION 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.

15m Cochrane P/L R/W  
Plan 801 0628  
(Wentham P/LA 790330)

(Paved Hwy 539)



ALBERTA LAND SURVEYORS' ASSOCIATION  
PERMIT NUMBER  
**P002**  
USHER CANADA  
LIMITED

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

**JOB No.: 2029.03.22IOP12**



## **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 <sup>4/21</sup>	30000	B/W Agfa-50	
* 91-191	19	C	1991-00-00 <sup>8/21</sup>	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 <sup>25</sup>	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 <sup>12/10</sup>	20000	PAN 2405	
* 70-119	15	C	1970-05-07 <sup>04/05</sup>	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?



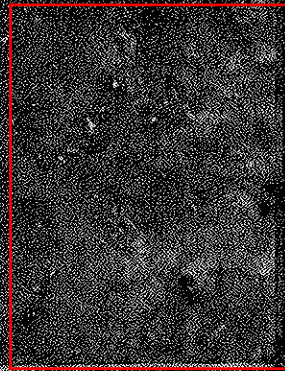
An aerial photograph showing a landscape with a dark, textured area on the left and a lighter, more uniform area on the right. A red rectangular box is drawn on the dark area, indicating a specific location of interest. The image is a composite of several smaller photographs, with visible seams and varying textures.

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 1-20000

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 AS3152 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



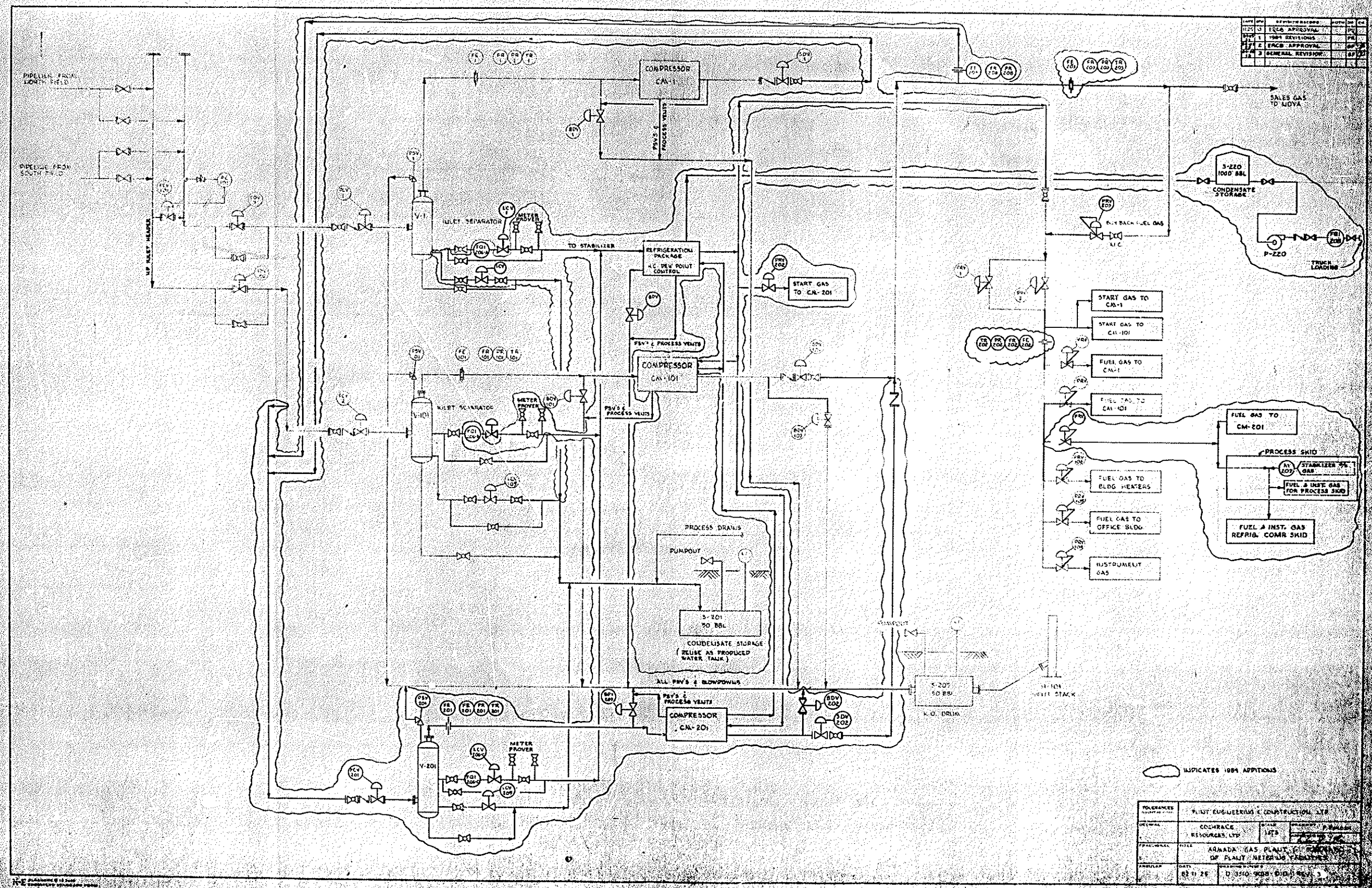


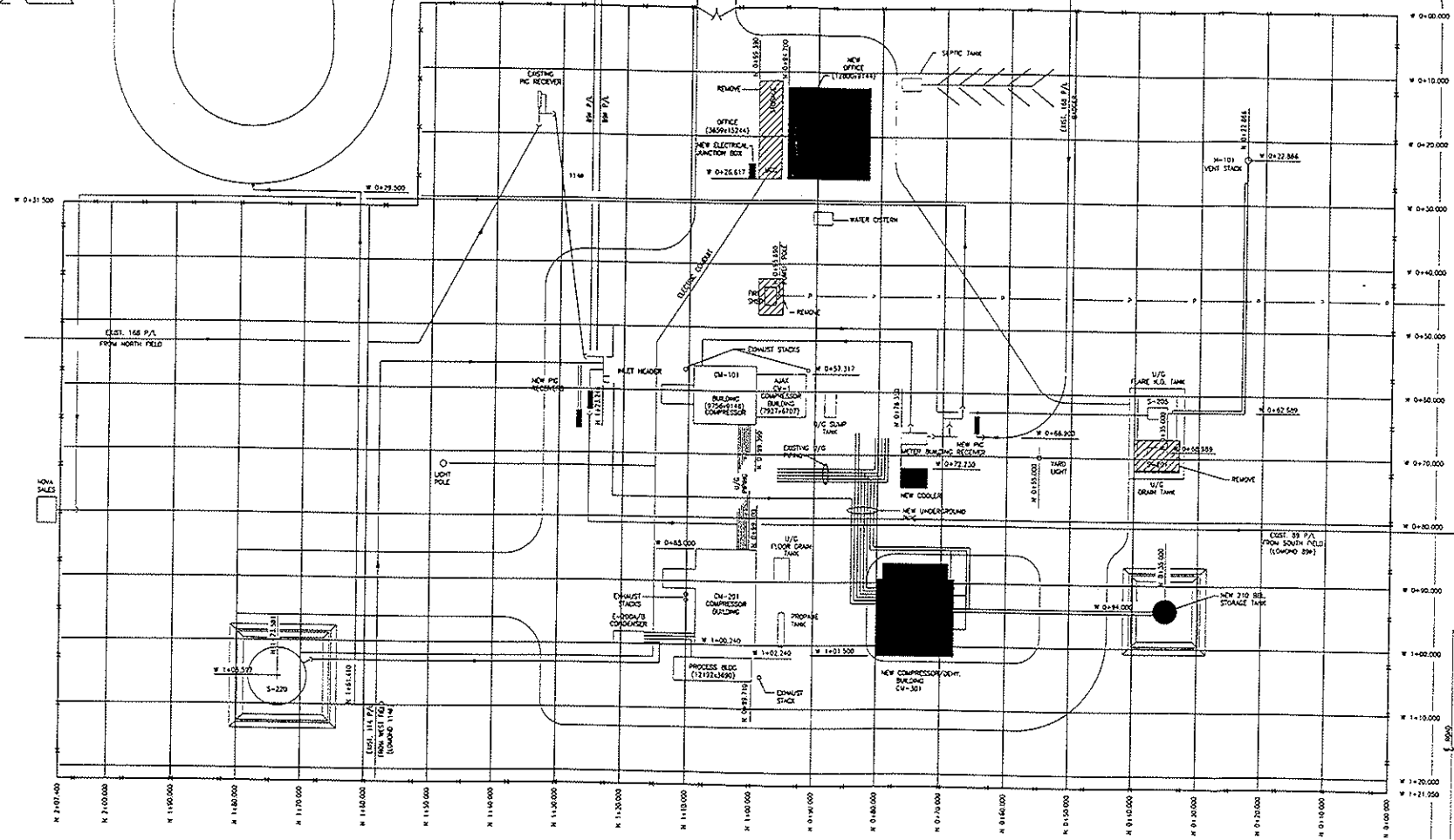
Location: 01-18-017-18 W4M  
Date: April 24, 1999  
Scale: 1:7,500





## **Appendix E**





NOTES					
	I	87-02-23	AS BUILT AS PER FIELD MARKUP	MCH	/7
	D	87-04-14	ISSUES FOR CONSTRUCTION	CN	
	C	87-03-34	GENERAL REVISION	RUC	
	B	87-02-19	GENERAL REVISION	SL	
	A	87-02-28	ISSUED FOR APPROVAL	SL	
FILE NAME: \\F:\P\2012\2012\DCM\BRI-10017.dwg	PLOT DATE:	87-02-25			
	NO	DATE	REASONS	DRAWN	CHEK.
					APPD.
					FOUNT
					ADD



PERMIT TO PRACTICE  
DESIGN ENGINEERING LTD.  
Signed: *[Signature]*  
Date: *Aug 15 / 97*  
PERMIT NUMBER: P 3428  
The Association of Professional Engineers  
Consultants and Geoscientists of Alberta

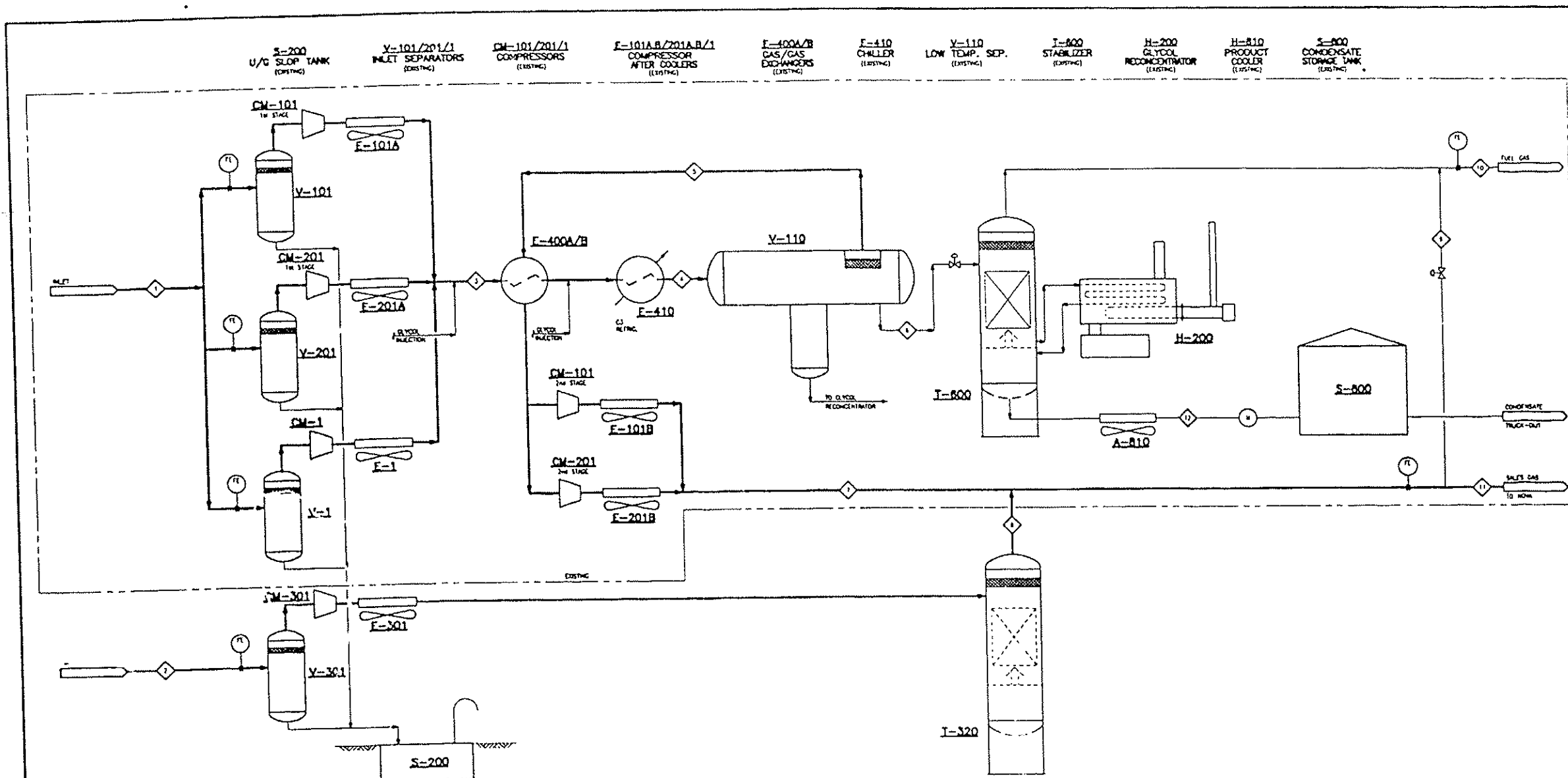
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SL	97.02
CHECKED:	DATE:
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APPROVED:	
CLIENT APPROVAL:	
SCALE:	
1:300	
PROJECT NO:	
G96-132	

**Gemini  
Engineering Ltd.**

PROJECT MANAGEMENT - DESIGN  
CALGARY, ALBERTA

ARMADA EXPANSION  
LSD 01-18-17-18 W41  
PLOT PLAN

CLIENT Dwg. No:	DESIGN Dwg. No:
-	G96-132-PP-001



Stream Name	1	2	3	4	5	6	7	8	9	10	11	12
Temperature, °F	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Pressure, psia	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Flow, m³/d	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Latent Heat, Btu/lb	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

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

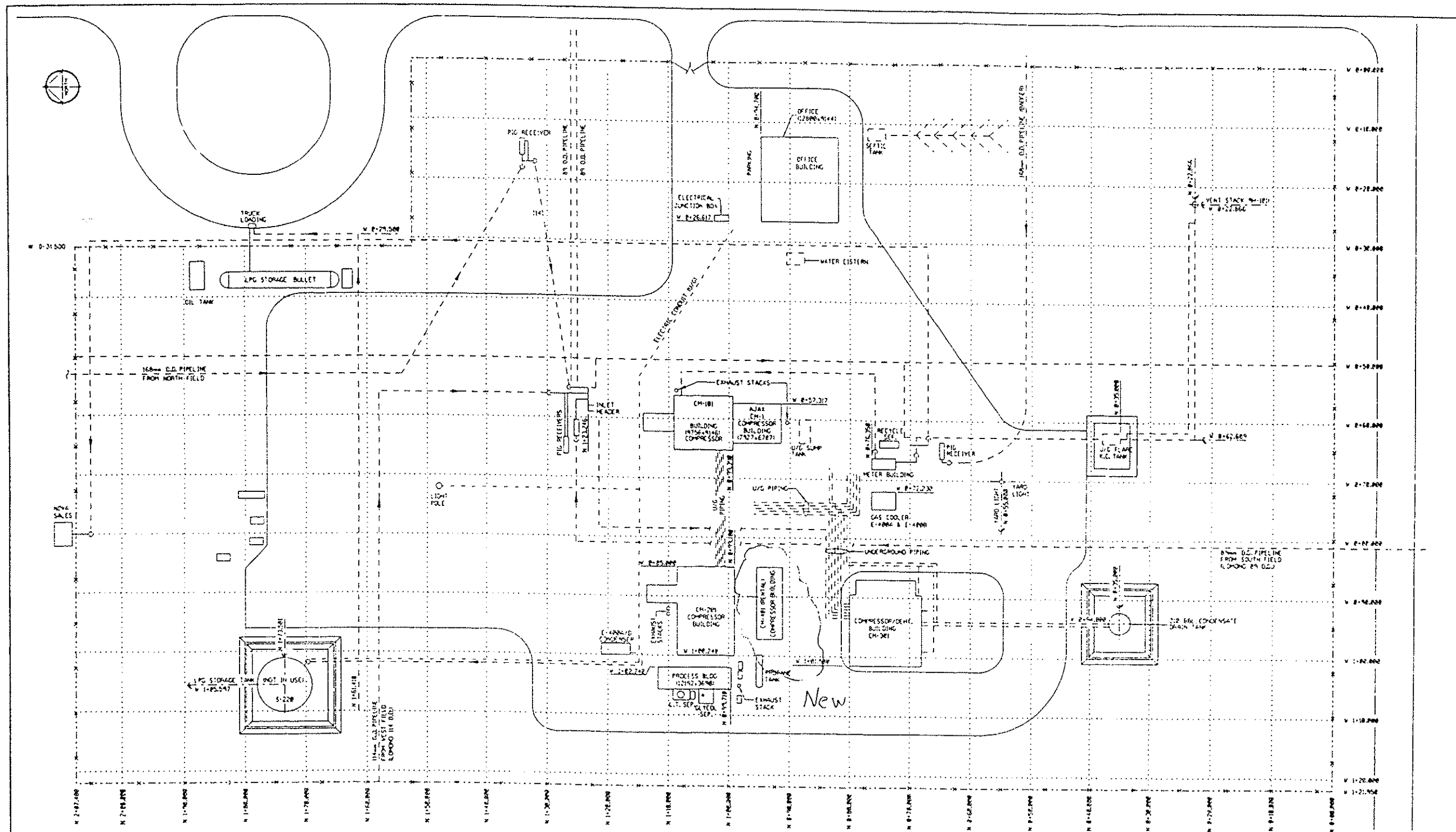
DESIGN	DATE	GEMINI Engineering Ltd.	PROJECT MANAGEMENT - DESIGN
CHECKED	DATE		
APPROVED	DATE	CLIENT APPROVAL:	
SCALE: NONE		PROJECT NO: 006-132	
CLIENT DRC: JAC		CLIENT DRC: JAC	

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

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

PERMIT TO PRACTICE  
 006-132-001  
 CLIENT APPROVAL:





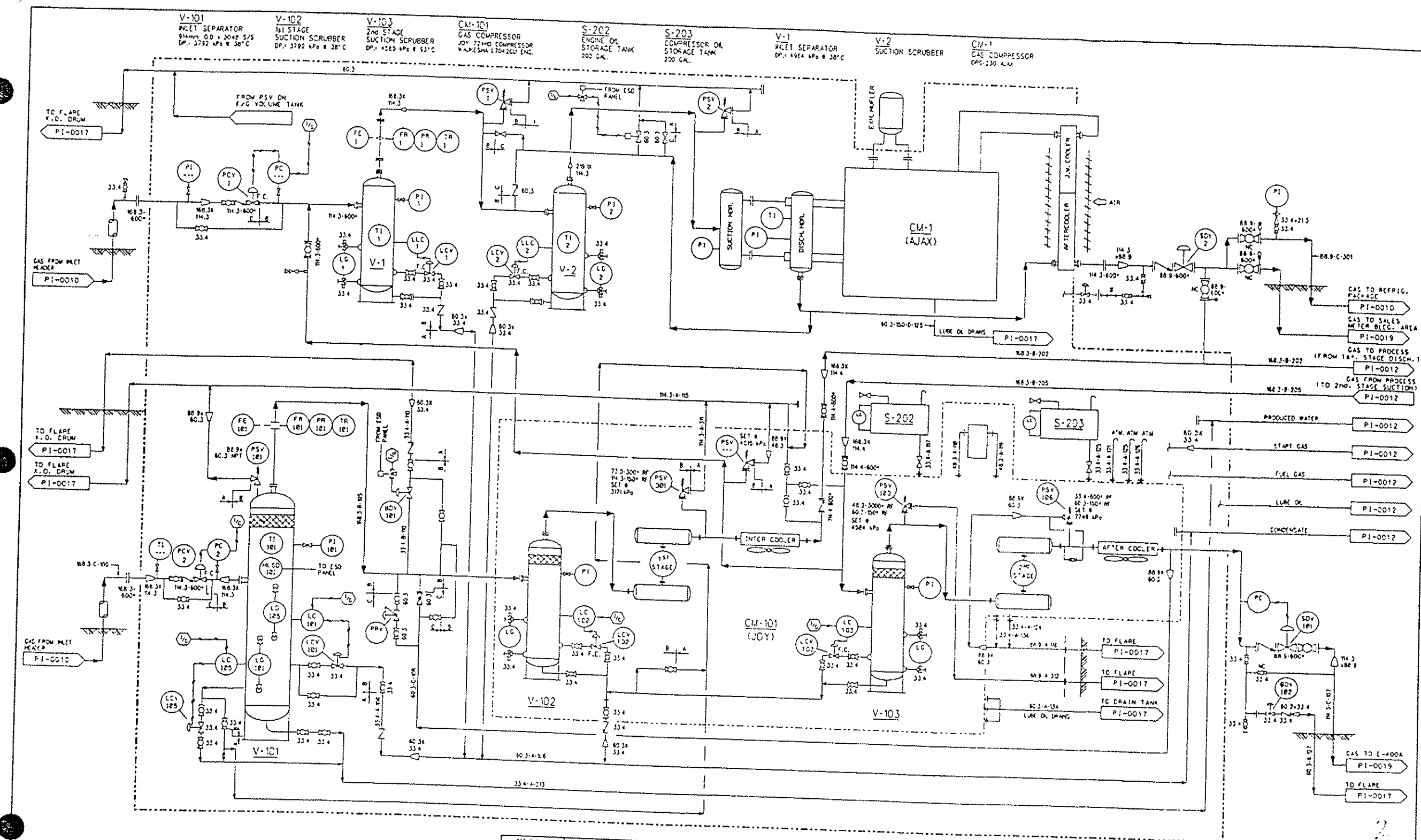
PREPARED BY:  
**Taxila** GAS ENGINEERING LTD

REF. NO.	REFERENCE DRAWING DESCRIPTION	REV.	REVISION HISTORY	REV.	DATE	ISSUED FOR	NO.	CURRENT REVISION	ISSUED FOR
								AS BUILT	20/04/06-30
								SCALE: 1/8" = 1'-0"	01-18-017-18W4
								ALTERNATE REVISION	PP-0001

**Husky Energy**

ARMADA GAS PLANT  
 LSD 01-18-017-18W4  
 PLOT PLAN





PREPARED BY:  
**Texaco** GAS ENGINEERING LTD.

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

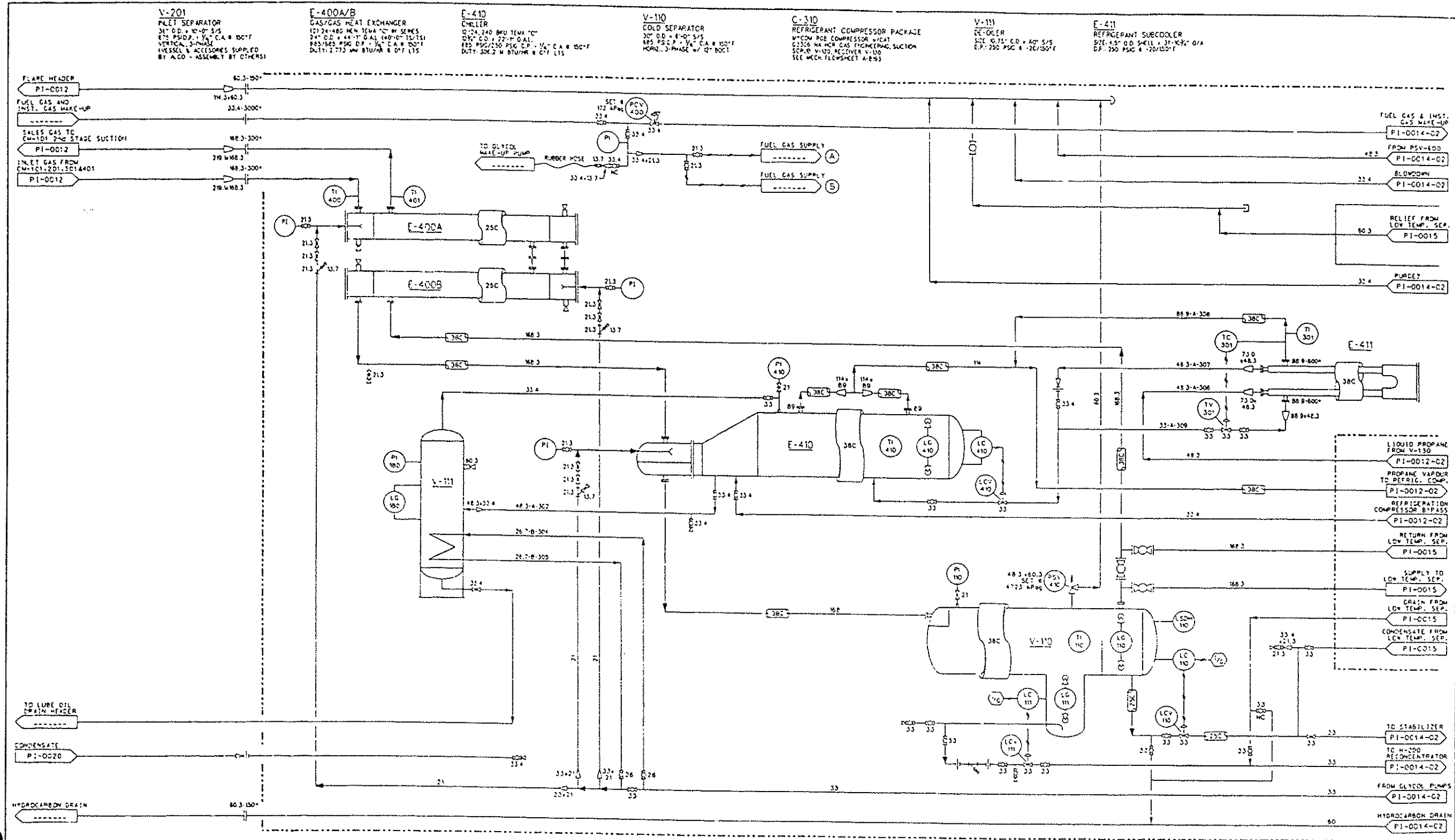
**Husky Energy**

ARMADA GAS PLANT  
LSD. 01-18-012-1884

CURRENT REVISION	REVISED FOR AS BUILT
AS BUILT	
DOC DATE	
DOC AUTHOR	
SCALE	
ALTERNATE IDENTIFIER	







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

PREPARED BY:

**TURK** GAS ENGINEERING LTD.

**Husky Energy**

ARMADA GAS PLANT  
LSD 01-18-017-18W4  
REFRIGERATION UNIT AREA (SHEET 1 OF 21)  
PROCESS & INSTRUMENTATION DIAGRAM

DOC DATE: 2004/07/20

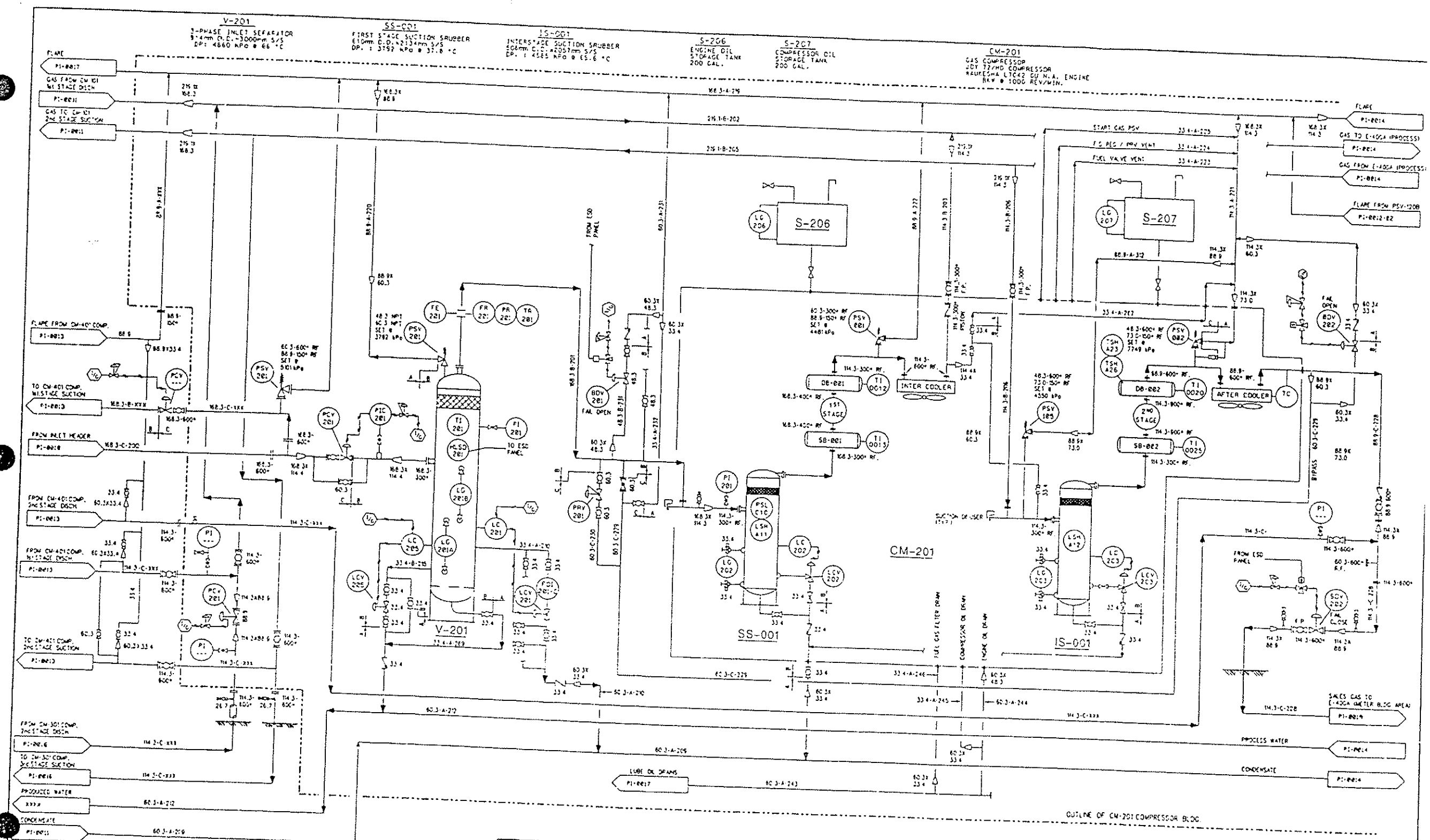
DOC AUTH: BEER, BRIAN

SCALE: NTS

ALTERNATE IDENTIFIER:

SUPPLY LAD: 01-18-017-18W4

DOCUMENT IDENTIFIER: P3-0014

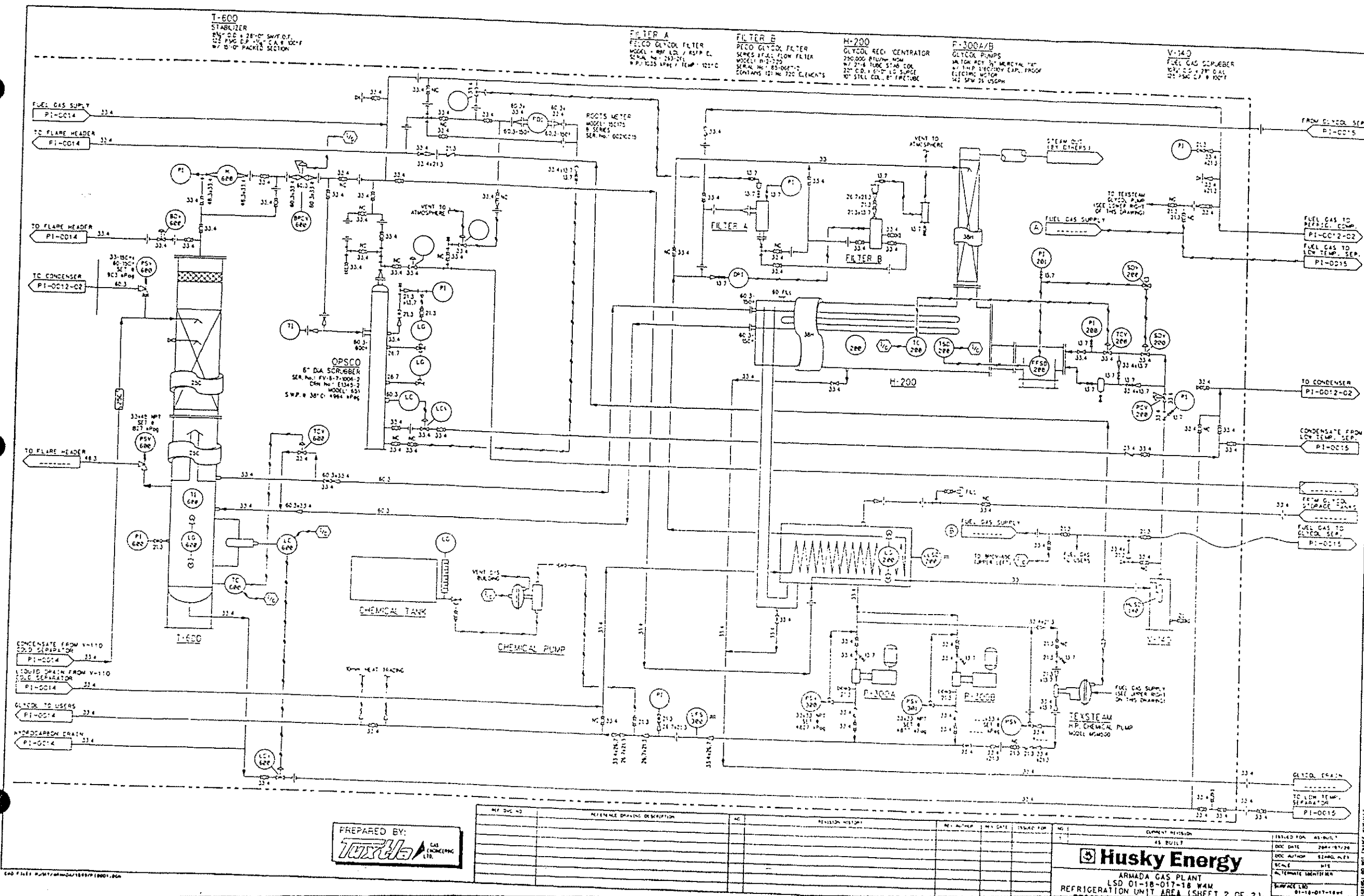


PREPARED BY:  
**Tuxila**  
ENGINEERING LTD


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

**Husky Energy**

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



PREPARED BY:  
**Tux Ho** CAS ENGINEERING LTD.

[illegible]

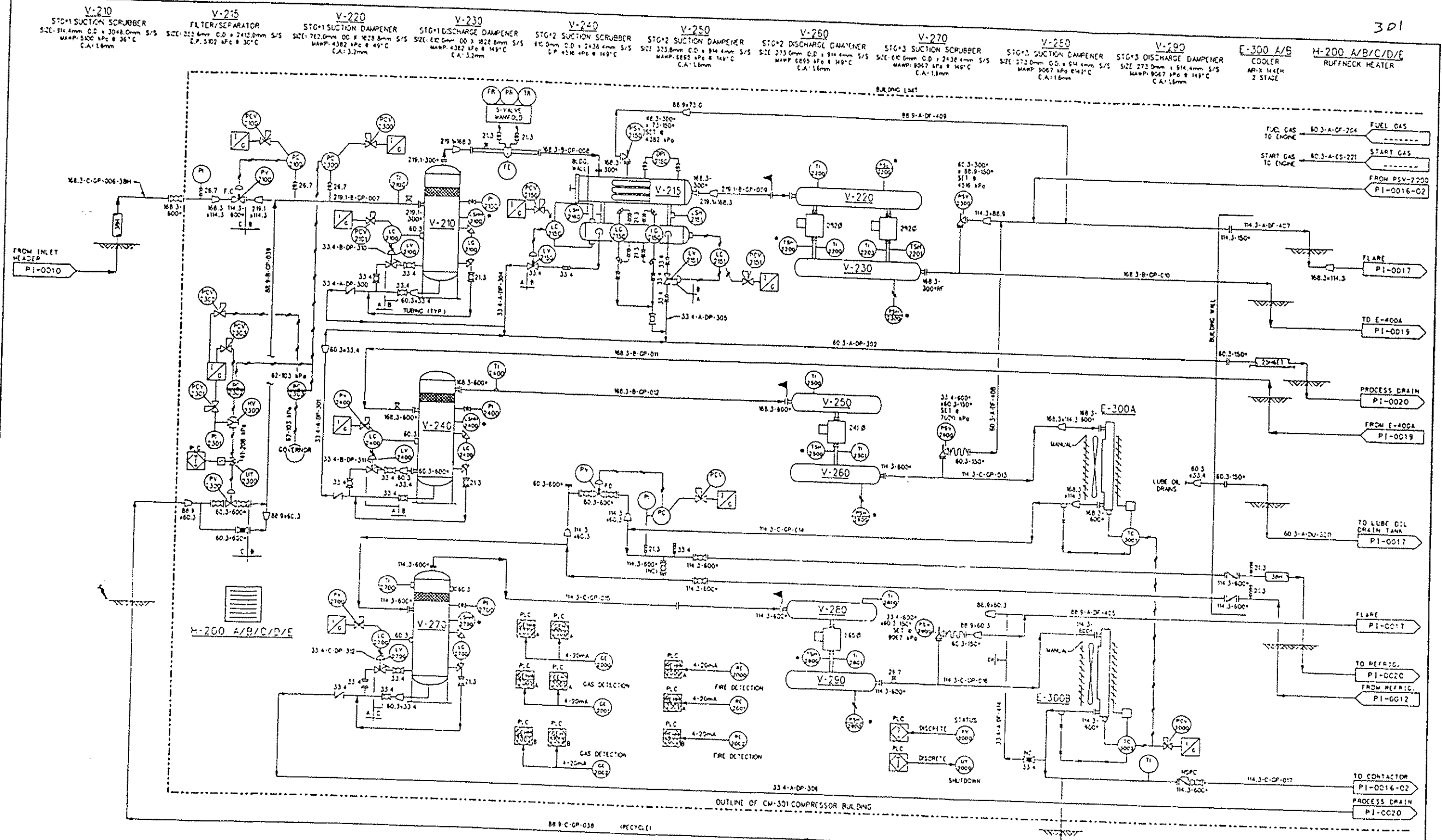
**Husky Energy**

ARMADA GAS PLANT  
LSD 01-18-017-18 W4M  
REFRIGERATION UNIT AREA (SHEET 2 OF 2)

ISSUED FOR	AS-BUL
DOC DATE	2004-09
DOC AUTHOR	SIABO
SCALE	N/E
INTERMEDIATE IDENTIFIER	
PLANTACE LIB	
	01-10-017-10







NOTES  
1 - DENOTES TIE-IN TO LOCAL PANEL

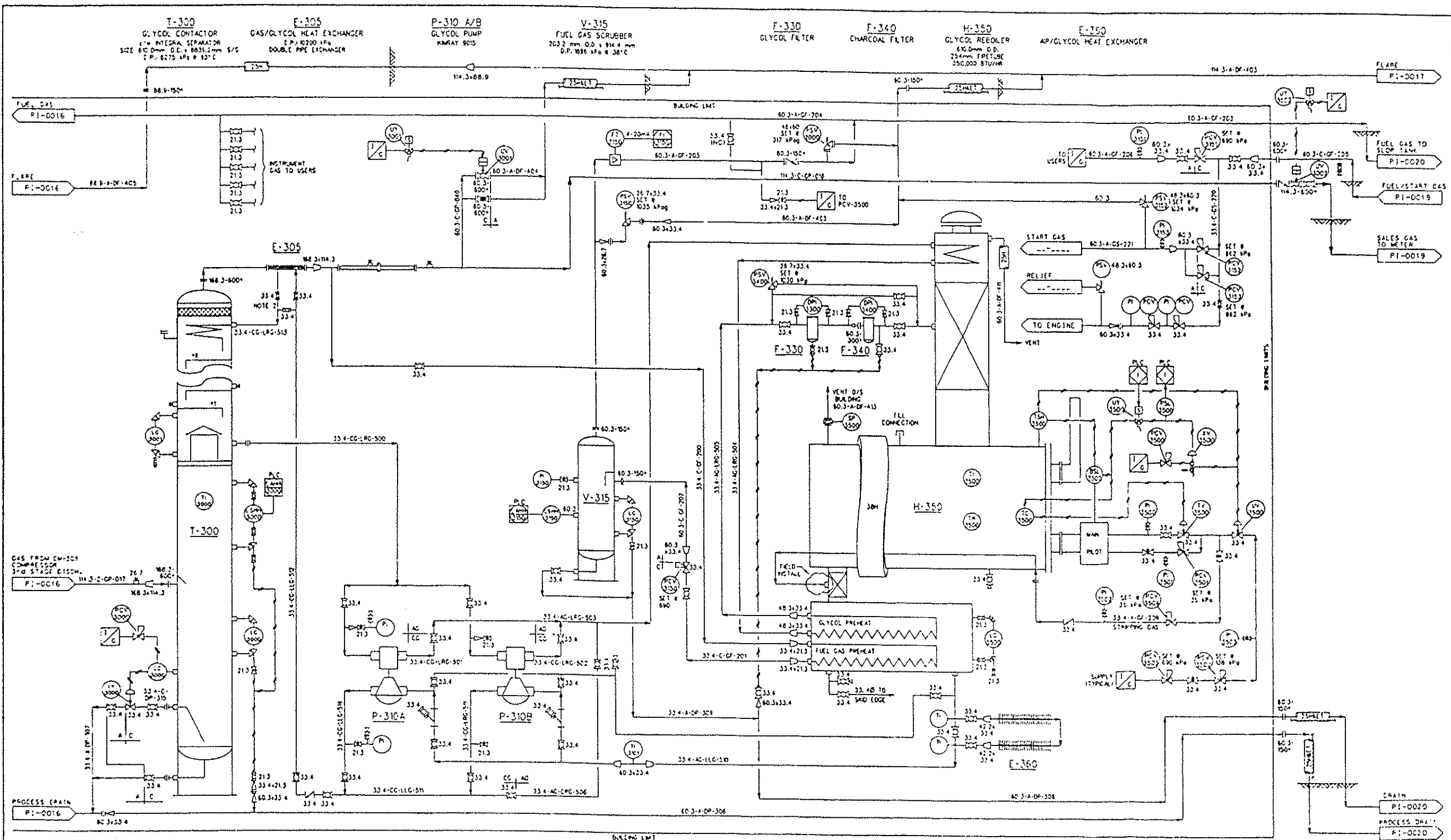
PREPARED BY:  
**Tuxila** GAS ENGINEERING LTD.

REV. NO.	DESCRIPTION	DATE	BY	CHKD.

**Husky Energy**

ARMADIA GAS PLANT  
LSD 01-16-017-18 W4M

REV. NO.	DESCRIPTION	DATE	BY	CHKD.



PREPARED BY:  
**Tuxila** GAS ENGINEERING LTD.

REF. Dwg. 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

FILED FOR	AS BUILT
DWG. DATE	27/01/2018
DWG. AUTHOR	BEHNE BRYAN
SCALE	N/A
ALTERNATE	IDENTIFIAN
SOURCE	LSD 01-18-017-18W4
DOCUMENT IDENTIFIER	PI-0018-02

H-101  
VENT STACK  
SIZ: 219 mm O.D. x 11877mm Ht.  
C/W 88.9mm O.D. KGM7ER-TUBL



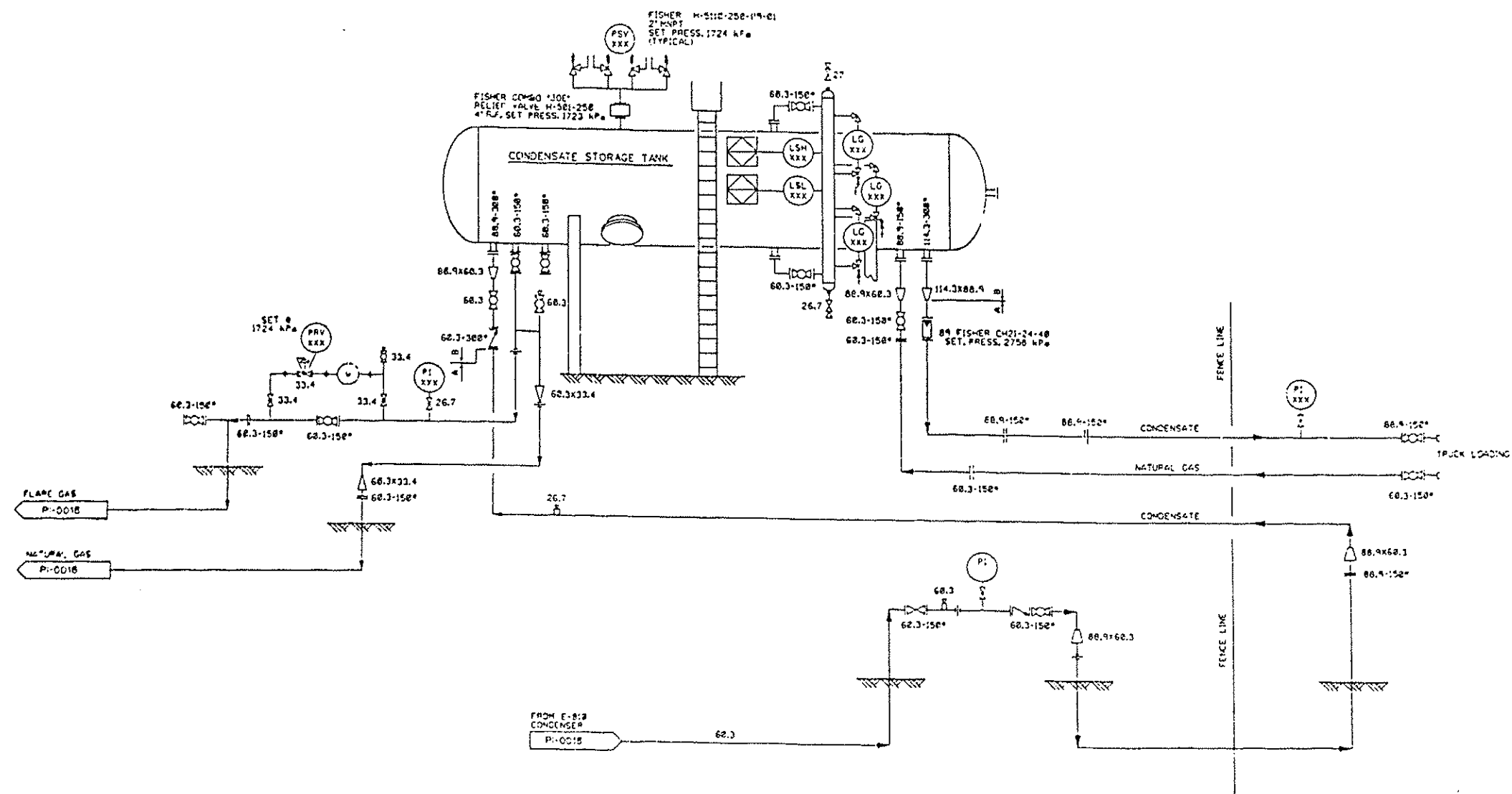
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							1	AS BUILT	ISSUED FOR AS BUILT
								DOE DATE	2000.07.17
								DOE APPROV. SIGNATURE	
								SCALE	N/A
								ALTERNATE TOLERANCE	

**Husky Energy**

ARNADA GAS PLANT  
 LSD 01-10-017-18-N4M  
 SYSTEM & OIL DRAIN  
 FLARE PROCESS & INSTRUMENTATION TANK  
 DIAGRAM


DATE: 10-10-00  
 BY: 10-10-00

CONDENSATE STORAGE TANK  
DIA 274.3mm 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:  
**Tuxida** IN ALBUQUERQUE

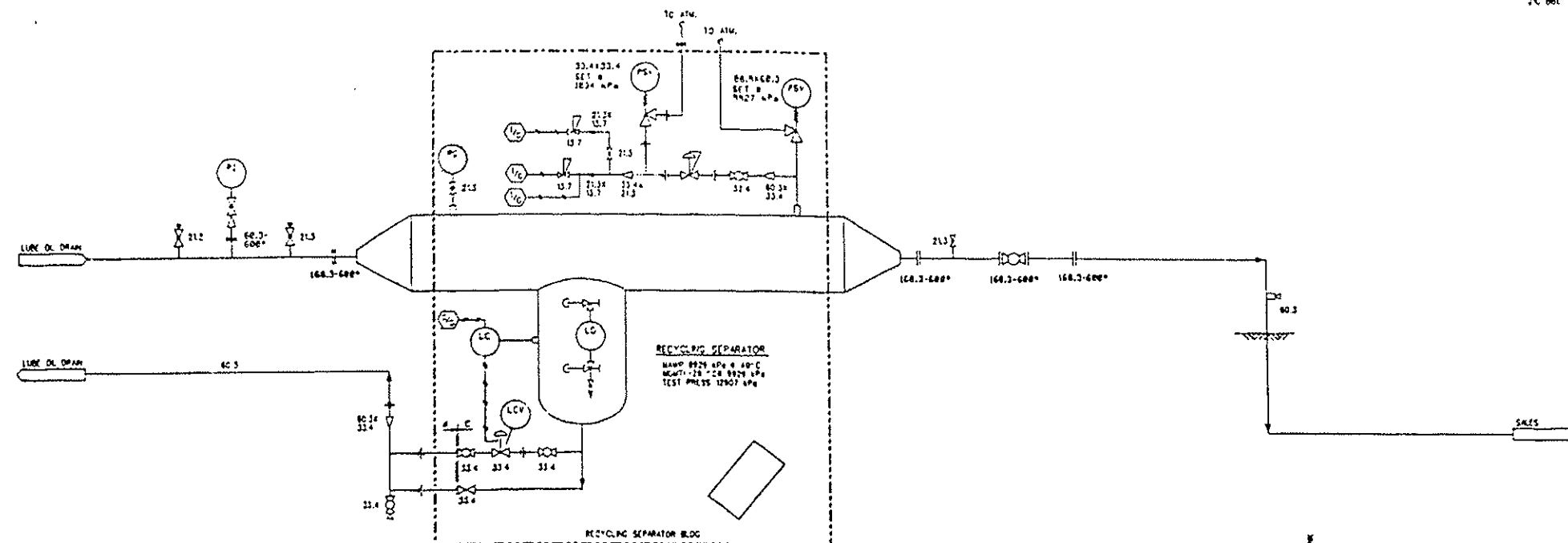
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							1	AS BUILT	DOC DATE PERM-PS-11
									SPEC AUTOMATIC SIGNALLING
									SCALE MTS
									ALTERNATE IDENTIFIER
									DRAWING LBS
									FIELD-MOUNTED
									PERMIT IDENTIFIER



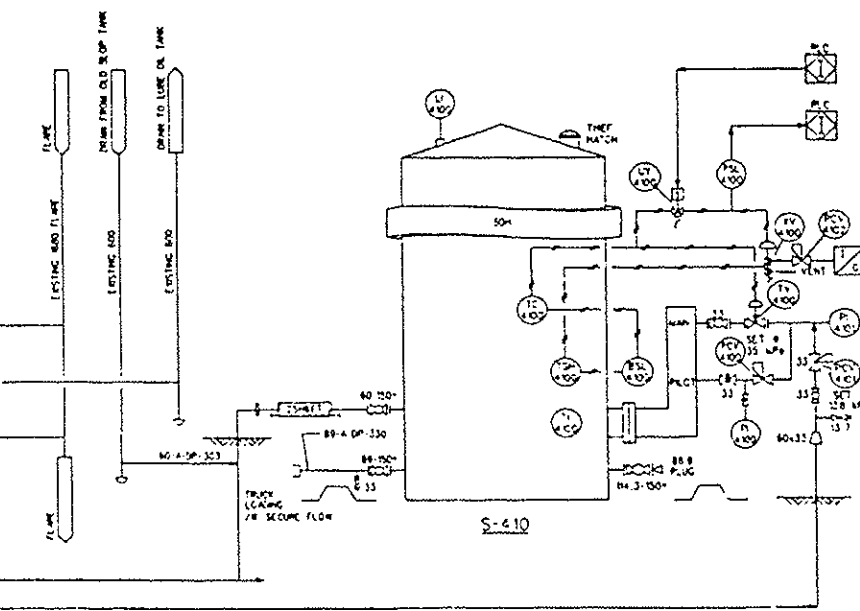
ARMADA GAS PLANT  
LSD 01-1B-017-1BW4M  
CONDENSATE STORAGE AREA



S-410  
SLOP TANK  
2" O.D.



- FLAME 60-A-OP-402
- FLAME 60-A-OP-403
- FLAME 60-A-OP-404
- FLAME 60-A-OP-405
- FLAME 60-A-OP-406
- FLAME 60-A-OP-407
- FLAME 60-A-OP-408
- FLAME 60-A-OP-409
- FLAME 60-A-OP-410
- FLAME 60-A-OP-411
- FLAME 60-A-OP-412



PREPARED BY:  
**TOX**

REF. DNG. 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: ELMC-MER
									SCALE: NTS
									ALTERNATE IDENTIFIER
									SURFACE: 1/2"
									DATE: 01-18-01
									DOCUMENT IDENTIFIER: P1-0028

**Husky Energy**

ARMADA GAS PLANT  
LSD 01-18-017-18V4  
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 8th 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](mailto: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 COMPLAINT?			
CAUSE:	CONVERSION		
STRIKE AREA:	EYRMOR	FIELD CENTRE:	MIDNAPORE
CONCERNS:	ODOURS - OTHER		

**OPTIONS**  
[View](#)  
[Licensee Info](#)  
[Print Screen](#)  
[Close Screen](#)



## **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
Rental Date:		Total Hectares:	1.860
Surrender Days:		Total Acres:	4.596
Reclaim Number:		Application Date:	
Reclaim Date:		Account Number:	
Prev Doc Number:	S11318		

☐ GST Applies

### 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