



OIL & GAS DEVELOPMENT COMPANY LIMITED PAKISTAN



KPD-TAY GAS & LPG PROCESSING PLANT

PROJECT NO	PROJECT TITLE				MAXIMO REF
KT-ECR-1104	SALES GAS COMPRESSOR PACKAGE K-6301E				N/A
DOCUMENT NO.	KT-ECR-1104-63-SOW-0005	REVISION	00	DATE	29-06-2022

SOW FOR HIRING OF TRANSPORTATION, LIFTING & RIGGING SERVICES FOR COMPRESSOR PACKAGE AT KPD-TAY PLANT

Tender No. TE/MECH/WT/KPD-0005/2022

Rev	Date	Description	PRPD BY	CHKD BY	APPD
00	29-06-2022	SOW FOR HIRING OF TRANSPORTATION & RIGGING SERVICES FOR COMPRESSOR PACKAGE AT KPD-TAY PLANT	Muzammil Abbas	Bahauddin Tarin	Muhammad Riaz Rasheed Ahmad

TABLE OF CONTENTS

1	INTRODUCTION.....	4
2	PLANT OVERVIEW	4
3	OBJECTIVES	5
4	SCOPE OF WORK	5
5	WARRANTIES AND GUARANTEES.....	6
6	PROJECT EXECUTION PLAN	6
7	METHODOLOGY AND EXECUTION STRATEGY	6
8	GENERAL TERMS & CONDITIONS	7
9	DOCUMENTS TO BE SUBMITTED ALONG WITH TECHNICAL BIDS.....	8
10	COMMERCIAL QUOTE SUBMISSION	9

LIST OF ABBREVIATIONS USED:

Abbreviation	Description
OGDCL	Oil & Gas Development Company Limited
SOW	Scope of Work
LPG	Liquefied Petroleum Gas
GPP	Gas Processing Plant
GA	General Arrangement
PKR	Pakistani Rupee

1 INTRODUCTION

Oil and Gas Development Company Ltd (OGDCL) is Pakistan's National Oil & Gas Exploration and Production Company. OGDCL is currently operating Country's largest Oil & Gas sector.

KPD-TAY Integrated Development Project Phase-II is a Gas & NGL Processing Plant, located in Hyderabad District about 25 km away from Hyderabad City and approx. 195 km from Karachi, Sindh Province of Pakistan.

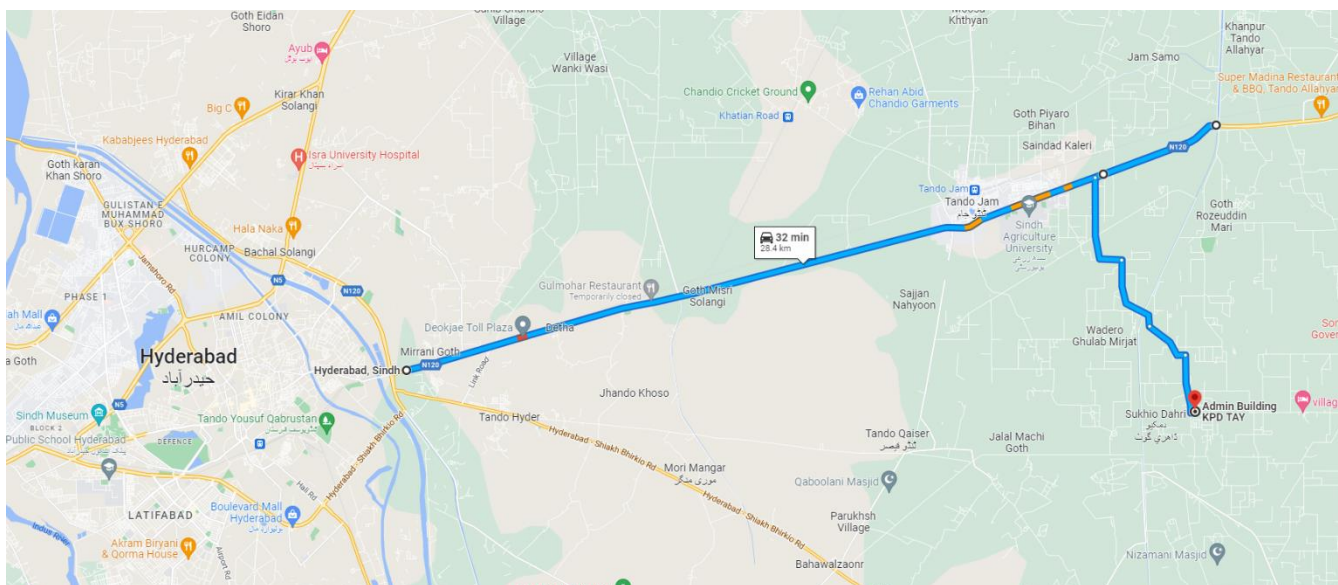


Figure 1: Location of the Plant

Currently there are 03 Gas Turbine Driven Centrifugal and 01 Gas Engine Driven Reciprocating Compressor Packages installed at KPD-TAY Plant to inject processed gas into SSGC's network. OGDCL intends to hire services from a reputed contractor for transportation of Gas Engine Driven Reciprocating Compressor Package from Qadirpur Gas Plant located in District Ghotki to KPD-TAY Plant, located in District Hyderabad and for unloading at KPD-TAY Plant.

2 PLANT OVERVIEW

- 2.1 KPD-TAY Integrated Facility is comprised of Wellheads, Gas Gathering network and Gas Processing Plant (GPP).
- 2.2 The GPP is combination of two independent identical capacity process trains, comprised of following main units:-
 - Plant Reception Facilities including KPD (K) and TAY (T) 'Finger Type' Slug Catchers and K and T Production Separators.
 - Gas Sweetening Units to remove CO₂ using MDEA solvent (2x50% Independent identical trains).
 - Gas Dehydration Units using Molecular Sieve Adsorbent (2x 50 % Independent identical trains).

- LPG Extraction Units (2 x 50 % trains of Dew point Control, Turbo-Expander/Re-Compressor, independent identical trains).
- Condensate Stabilization Units (2 x 50 % trains, Independent identical trains).
- Sales Gas Compressors (3 x 50 % Capacity independent identical capacity units).
- Sales Gas Metering.
- LPG & Condensate Storage & Loading.
- Power Generation.
- Utilities such as Hot Oil System, Fuel Gas System, Compressed Air System, Cooling water system, Produced water disposal, Flare System, Closed Drain System, etc.

3 OBJECTIVES

OGDCL intends to relocate a Gas Engine driven Compressor Package from Qadirpur Gas Plant (Origin) to KPD-TAY Plant (Destination) for which Transportation (From Origin to Destination) & Rigging Services (at Destination Only) are required to unload Compressor Package from Trailers.

4 SCOPE OF WORK

The Scope of Work comprises of following but not limited, to:

All the activities to be performed in line with industry best practices, superior quality workmanship and in safe manner.

- 4.1 Supply of 3rd Party Certified Trailers along with experienced crew for transportation of Compressor Package Skid, Cooler Skid and Auxiliary Equipment / Piping / Components / Valves & Accessories from Qadirpur Gas Plant, Ghotki Sindh to KPD-TAY Plant, Tando Jam, Hyderabad. As per initial estimate 02 Nos Low Bed, 40ft Trailers, 01 Flat Bed 40ft Trailer and 01 Mini Truck will be required for transportation of aforesaid machinery and items. However, the bidders may visit site for their working before submission of bid. The payment against Hiring of Trailers / Trucks will be paid as per actual requirement / quantity of trailers / trucks engaged.
- 4.2 Supply of Lifting & Rigging services along with 3rd Party Certified Hydraulic Telescopic Crane (atleast 200 Tonnes Weight Lifting Capacity), Accessories (Slings, Shackles, Rope Wires, Ropes etc.) and 3rd Party Certified Crew for Unloading of Compressor Package Skid, Cooler Skid and accessories from Trailers after arrival at KPD-TAY Plant. The skids will be placed directly on civil foundations aligned to each other as per Assembly Drawing.

The contractor shall provide detailed lifting plan for unloading of Compressor Package Skid (Weight: ~ 61 Tonnes) and Cooler Skid (Weight: ~ 25 Tonnes) including complete detail of accessories etc. along with marked load chart of crane to ensure safe rigging.

The dimensions and weights of Skids are provided in Annexure-1 of this scope of work along with Drawings of Compressor Package for reference.

The Contractor may visit site before submission of bid for estimation of required crane capacity and understanding of area layout to prepare lifting plan accordingly.

5 WARRANTIES AND GUARANTEES

Contractor will be required to render warranties and guaranties for all of the works to be completed as part of this SOW. Contractor shall have primary accountability and responsibility for safe execution of all works which constitute part of SOW in timely and safe manner. In the event any mishap arising from deviation from best industrial practices, Contractor shall have responsibility to take remedial action and rectify all issues under the scope of this Contract and with no additional cost to Company. Contractor shall hold full responsibility for safe planning & execution of all jobs under this SOW up to Company's satisfaction.

6 PROJECT EXECUTION PLAN

No	Activity Description	Time for Activity	Notes
1.	Award of Contract	0	Start of Contract
2.	Kick off meeting	1 days	
3.	Site visit by Contractor team (onsite)	1~2 days	
4.	Execution of Scope of Work	3~7 days (Approximately)	
5.	Close Out Meeting	1 day	

7 METHODOLOGY AND EXECUTION STRATEGY

- 7.1. Contractor will prepare detailed Journey Management Plan for transportation of loads considering prevailing local geo-political and environmental conditions at the time of execution and submit to the Company for approval. Ample safety margin to be kept to ensure risk free execution of lifting jobs.
- 7.2. Contractor will ensure use of 3rd party certified Trailers & Trucks for transportation of compressor package and auxiliaries.
- 7.3. Contractor will ensure that the compressor package & auxiliary equipment to be transported is secured and tied properly on the trailers to avoid damage during transportation.
- 7.4. Contractor will ensure use of water proof tarpaulins to safeguard all the equipment and components from dust and moisture ingress during transportation.

- 7.5. Contractor will prepare detailed lifting plans for unloading of loads considering all site related variables and submit to the Company for approval. Ample safety margin to be kept to ensure risk free execution of lifting jobs.
- 7.6. Contractor will ensure use of 3rd party certified and defect-free tools and equipment for execution of all works awarded under this SOW.
- 7.7. The Lifting / Rigging crew should be well experienced and 3rd Party Certified to conduct lifting operations.
- 7.8. Contractor will ensure adherence to Company's Work Procedures, Permit to Work System and Integrated HSE System Manual during planning and execution of all jobs under this scope of work.

8 GENERAL TERMS & CONDITIONS

- 8.1 Company will provide food and accommodation to Contractor's personnel at their camp located within the close proximity of KPD-TAY Gas Processing Plant.
- 8.2 All the documents to be produced by Contractor (Journey Management Plan, Lifting Plan etc.) will be in English language.
- 8.3 Company may request Bidder to submit sample Journey Management Plan / Lifting Plan etc. from their previous projects for reference during Technical/ Commercial bid evaluation stage.
- 8.4 Company reserves the right to monitor/ assess the performance of Contractor to ensure conformity with the Contract Documents. Contractor shall promptly rectify all such deficiencies and/or flaws that are brought to the Contractor's knowledge by the Company. Company's review/approval of any document shall not relieve the Contractor from any of their responsibilities/ accountabilities and obligations under the CONTRACT/ PO.
- 8.5 Company reserves the right to cancel the Contract/ PO at any stage without any obligation, if it proves that the objectives are not being achieved and / or suitably experienced people / equipment / machinery are not on-board to carry out the SOW.
- 8.6 Contractor will ensure that all equipment and accessories are properly covered, packed and tied to safeguard from environmental effects and any possible damage during road transportation.
- 8.7 Contractor shall be responsible to arrange all ropes, tie-belts and tarpaulins in sufficient quantity to safeguard loads onto the trailers. All the ropes, tie-belts and tarpaulins should be in defect-free and in healthy condition.

- 8.8 The Tyres and Prime Movers of Trailers should be in very good condition and fit for use in line with local, provincial and federal regulations.
- 8.9 The Trailer Drives must possess valid HTV Licence and permits in line with local, provincial and federal regulations and should have minimum 10 years of experience of HTV.
- 8.10 The Crane Operator must possess valid HTV Licence, must be 3rd party certified and permits in line with local, provincial and federal regulations and should have minimum 10 years of experience of Crane Operation.
- 8.11 Contractor to ensure use of certified lifting tools and accessories including spreader bars (if required) for safe lifting and rigging of heavy loads and skids.
- 8.12 Contractor will ensure that skids are unloaded and placed aligned to each other as per requirement and satisfaction of OGDCL.
- 8.13 Contractor shall be responsible to ensure safe transportation of all equipment and accessories from Qadirpur Plant to KPD-TAY Plant and shall be responsible to replace and rectify any damaged item during transportation.

9 DOCUMENTS TO BE SUBMITTED ALONG WITH TECHNICAL BIDS

Following documents should be attached with the technical bids:

- 9.1. CV of Team Lead / Supervisor proposed by the bidder to carry out this SOW. CVs should include exact description of similar works completed along with brief details of their scope/role.
- 9.2. CVs of Rigging Crew along with Third Party Certification documents.
- 9.3. Third Party Certification, Load Chart & Lifting Plan of Selected Crane.
- 9.4. Detailed Execution Methodology along with Resource Deployment Plan.
- 9.5. Organization chart for execution of this scope of work.

10 COMMERCIAL QUOTE SUBMISSION

This is single stage TWO ENVELOP bid submission.

Therefore Technical and Financial bids will be submitted in two separate sealed envelopes (then placed in single envelop and sealed & stamped by the bidder with transparent tape on sealing flap).

Financial bids to be submitted in accordance with the Annexure-2. Financial bids will only be opened after completing the technical bids evaluation process and for the technically compliant bidders.

ANNEXURE-1

LIST OF DOCUMENTS ATTACHED WITH SCOPE OF WORK DOCUMENT

Sr #	Description	Document
1	GA Drawings of Compressor Package	V38690200-01~15-02
2	Compressor Package Weight Details	KT-ECR-1104-63-LL-001 REV.00
3	Location Map of Qadirpur Plant	Attached

NOTE: Additional docs will be provided by Company on request and as per requirement of the Bidder.

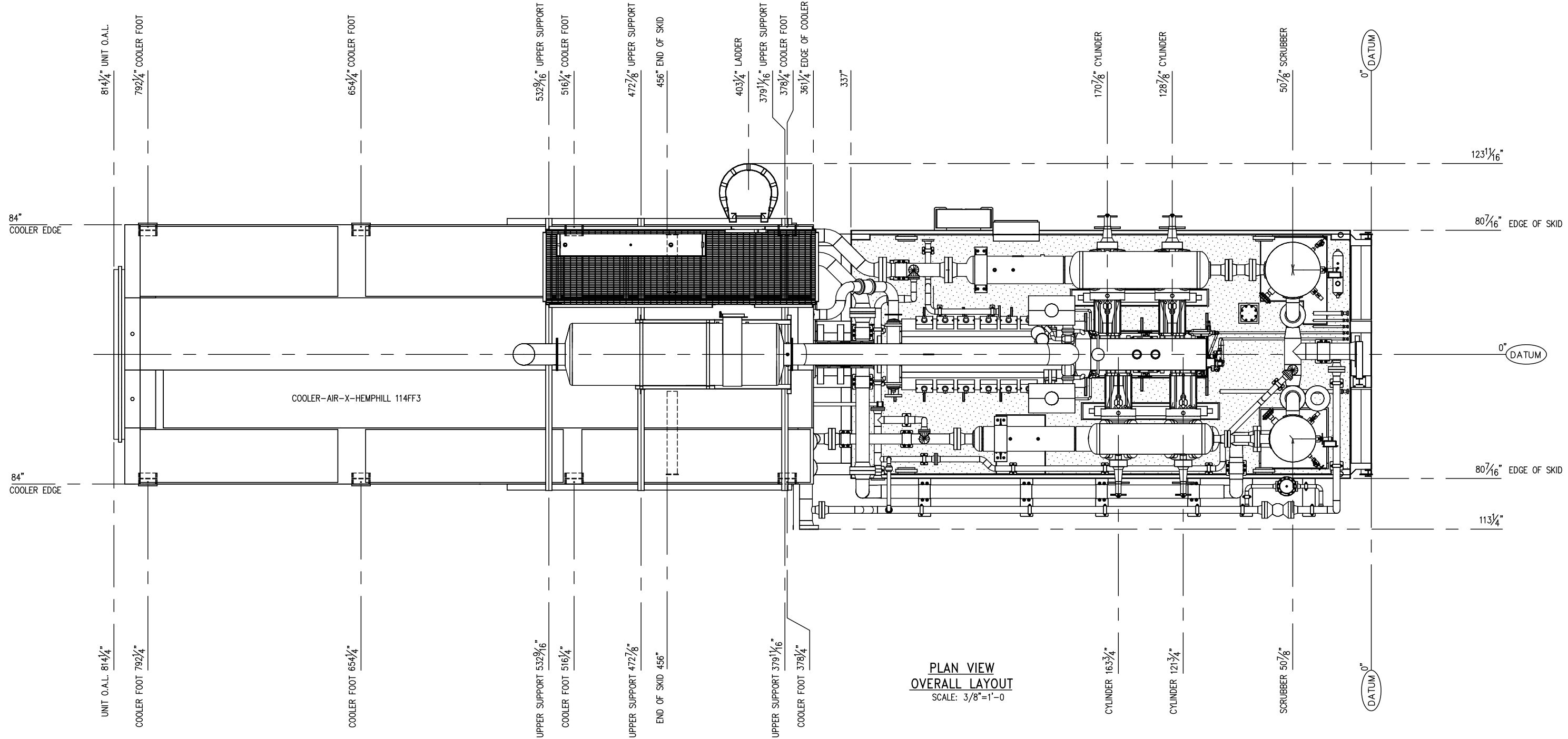
ANNEXURE-2

COMMERCIAL QUOTE FORMAT

Sr #	Scope of Work	Cost on Lump Sum Basis (PKR)	Notes
1	<p>Supply of Lifting & Rigging Services along with 3rd Party Certified Hydraulic Telescopic Crane(at least 200 Tonnes Weight Lifting Capacity), Accessories (Slings, Shackles, Rope Wires, Ropes etc.) and 3rd Party Certified Crew for Unloading of Compressor Package Skid and Cooler Skid at KPD-TAY Plant, Tando Jam, Hyderabad in line with SOW & T&Cs defined in Scope of Work Document.</p> <p>The cost should include all the expenditures including diesel and consumables for operation of crane at site and mob/ demob cost to / from KPD-TAY Plant.</p>		
2	Supply 02 Nos. of 3 rd Party Certified 40ft, Low Bed Trailers along with Crew, Trampolines, Ropes, Tie-Belts etc. as per SOW for Shifting of Compressor Package & Cooler Skids (61 Tonnes & 25 Tonnes Weight) from Qadirpur gas Plant to KPD-TAY Plant.		
3	Supply 01 Nos. of 3 rd Party Certified 40ft, Flat Bed Trailers along with Crew, Trampolines, Ropes, Tie-Belts etc. as per SOW for Shifting of Compressor Package Accessories from Qadirpur gas Plant to KPD-TAY Plant.		
4	Supply 01 Nos. of 3 rd Party Certified Mini Truck / Mazda along with Crew, Trampolines, Ropes, Tie-Belts etc. as per SOW for Shifting of Compressor Package Accessories from Qadirpur gas Plant to KPD-TAY Plant.		
	TOTAL QUOTE VALUE (PKR)		

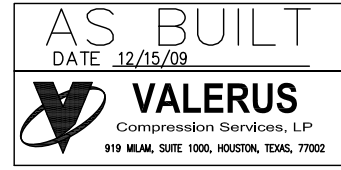
Note:

1. Quoted prices shall be inclusive of all taxes, duties, levies, and charges. ICT/PST (which ever applicable) on services shall be quoted as separate line item accordingly to applicability on each line item on the basis of province wherein the services are being rendered.
2. 100% payment shall be made through account payee cheque after completion of jobs awarded as per Contract / PO and submission of final report along with invoice duly accepted/approved by OGDCL. Taxes shall be deducted at source.
3. Quote validity should be 120 days from the date of submission.
4. Prices shall not vary within the Quote validity.



SEE SHEET V38690200-02 FOR SKID END CONNECTIONS

- NOTE:
- 316SS/NACE PROCESS VALVE & INSTRUMENT CONNECTIONS
 - EXTRA WIRE TO BE BUNDLED AT EDGE OF SKID.
 - 100% X-RAY VESSELS AND PIPING.
 - SUCTION VALVE, SUCTION SPOOL (10"600#S/XH, OAL 30"), & DISCHARGE VALVES TO SHIP LOOSE.
 - HARDNESS TEST ALL WELDS. PHWT IF FAILURE.
 - TOTAL UNIT WEIGHT: 189,940 LBS; UNIT WEIGHT MINUS COOLER & FALL OFF: 133,530 LBS
 - TOTAL UNIT CG: X: 286.02 Y: 53.02 Z: 0.95
UNIT MINUS COOLER & FALL OFF: X: 180.30 Y: 37.84 Z: 3.19
 - SHIP LOOSE ORIFICE PLATES R0-2030/R0-2011
 - BAY CITY TO SUPPLY PAST THIS POINT.
 - BAY CITY TO SUPPLY ENGINE WATER JACKET PIPING & EXHAUST PIPING.
 - FULL BORE ORIFICES INSTALLED IN R2010/2032/2033/2041/2021,
INSTALL SUPPLIED ORIFICES IF NEEDED.



DATE	DRAWN	CHECKED	APPROVED
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CLIENT: OGDCL

TITLE: COMPRESSOR PACKAGE
GENERAL ARRANGEMENT OVERALL
REFERENCE: MD-V3869 (AS-BUILT)

SCALE: 3/8"=1'-0"	FG# FG102477	JOB#
DRAWING NUMBER	SHEETS	REV
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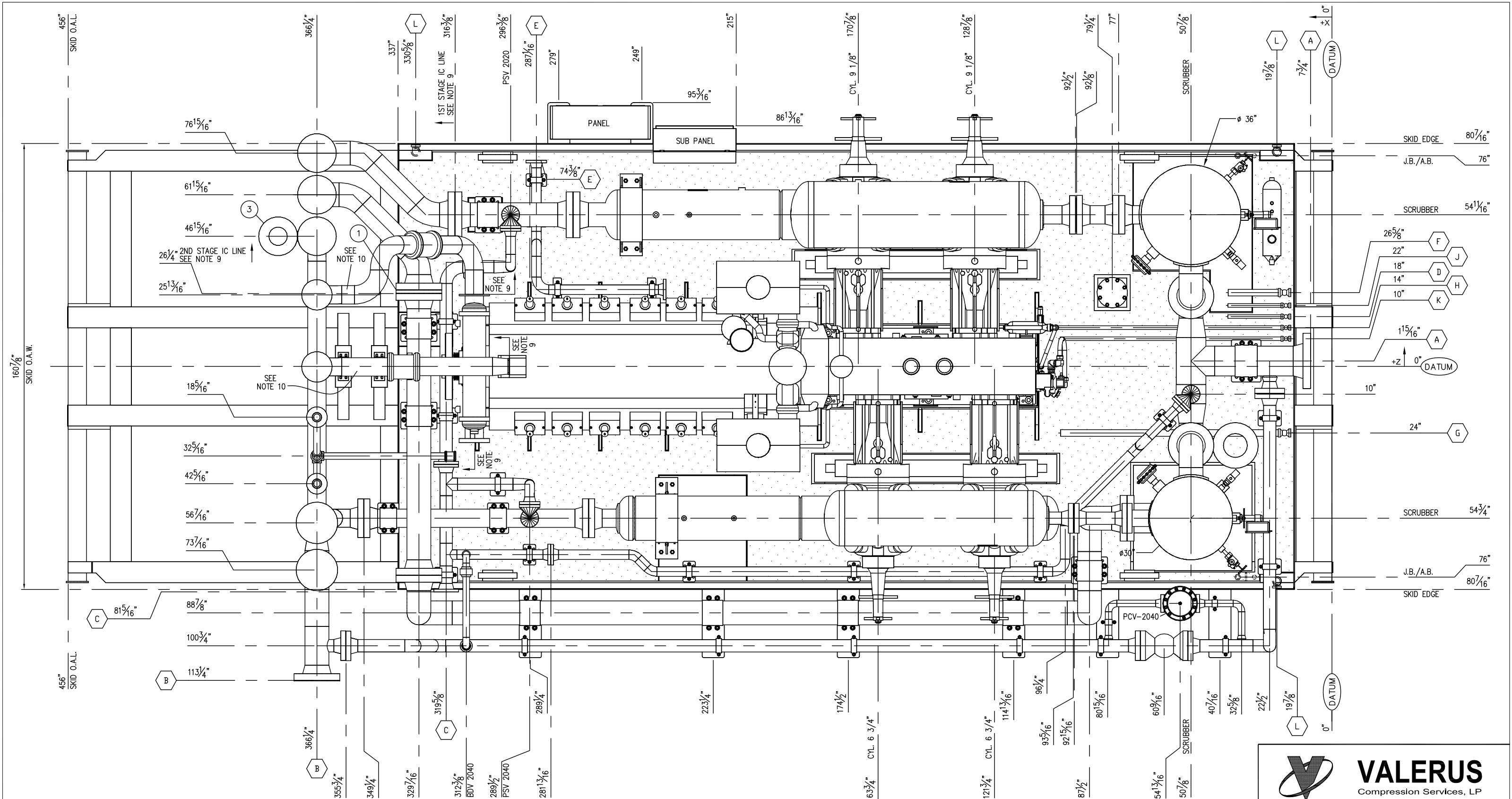
L	FOUR	2"	2000 LB.	FNPT	SKID DRAINS	11 5/8"
K	ONE	1"	2000 LB.	FNPT	LUBE OIL MAKEUP	21 7/16"
J	ONE	1"	2000 LB.	FNPT	INSTRUMENT AIR SUPPLY	21 7/16"
H	ONE	1"	2000 LB.	FNPT	EJW LOW POINT DRAIN / TAW DRAIN	21 7/16"
G	ONE	2"	2000 LB.	FNPT	ENGINE AND COMPRESSOR OIL DRAIN	22"
F	ONE	2"	2000 LB.	FNPT	FUEL GAS INLET	22"
E	ONE	3"	150 LB.	RFWN	LOW PRESSURE VENT HEADER	22 1/2"
D	ONE	1"	2000 LB.	FNPT	SCRUBBER DRAINS	21 7/16"
C	ONE	4"	150 LB.	RFWN	HIGH PRESSURE VENT HEADER	24 1/2"
B	ONE	8"	600 LB.	RFWN	UNIT DISCHARGE	22 1/2"
A	ONE	10"	600 LB.	RFWN	UNIT SUCTION	32 11/16"
MK	QTY	SIZE	RATING	TYPE	SERVICE	ELEVATION

FIG. 8 BLIND No.	SINGLE STAGE	TWO STAGE
③	○ OPEN ● CLOSED	
②	○ OPEN ● CLOSED	
①	● CLOSED ○ OPEN	

COMPRESSOR	SHIMS	ENGINE
ARIEL JGT-4	(10) SM20/3/4" SHM	SOLE PLATES & GROUT
(2) 9 1/8" (2) 6 3/4"	1/4" SHIM	ALLTHRD, 1 1/8", 8TPI
WAUKESHA 5794	(8) CAPSCREW, 1" x 5" LG.	SHV, 6C, 24.4" OD W/F QD
TWOODS FSH70-28	COOLER	SHV, 6C, 9.4" OD W/F QD
AIR-X-HEMPHILL 114FF3	ENGINE	SHV, 6C, 8.4" OD W/E QD
-	COOLER	
-	ENGINE	
-	IDLER	


REV.	DESCRIPTION	DATE	BY	CK
2	AS BUILT - NOTES	12/15/09	RB	ML/RL
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0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL

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PLAN VIEW
SKID ONLY
SCALE: 1/2"=1'-0"

AS BUILT
DATE 12/15/09



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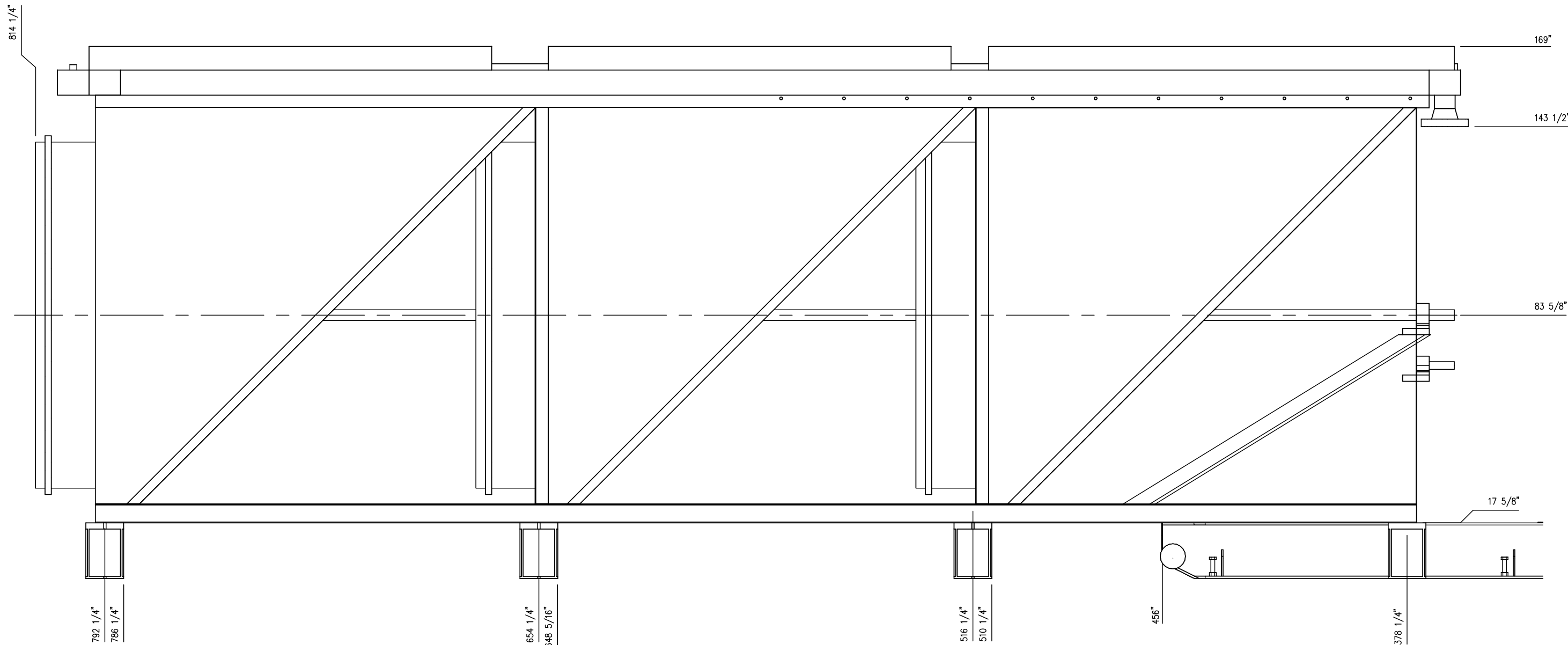
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COOLER END VIEW



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TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
COOLER LEFT SIDE VIEW

SCALE: 3/4" = 1'-0"	FG# FG102477	JOB#
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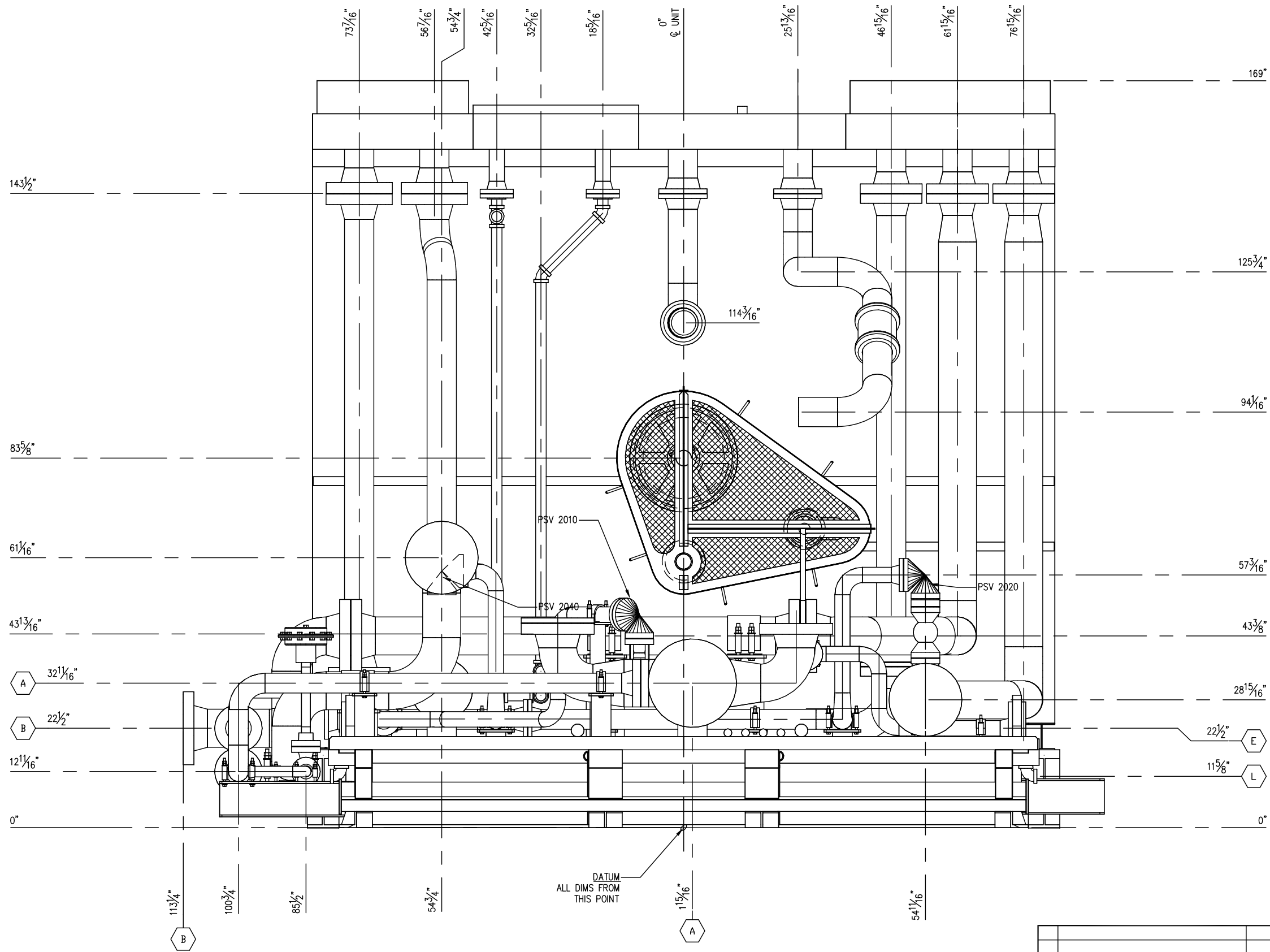
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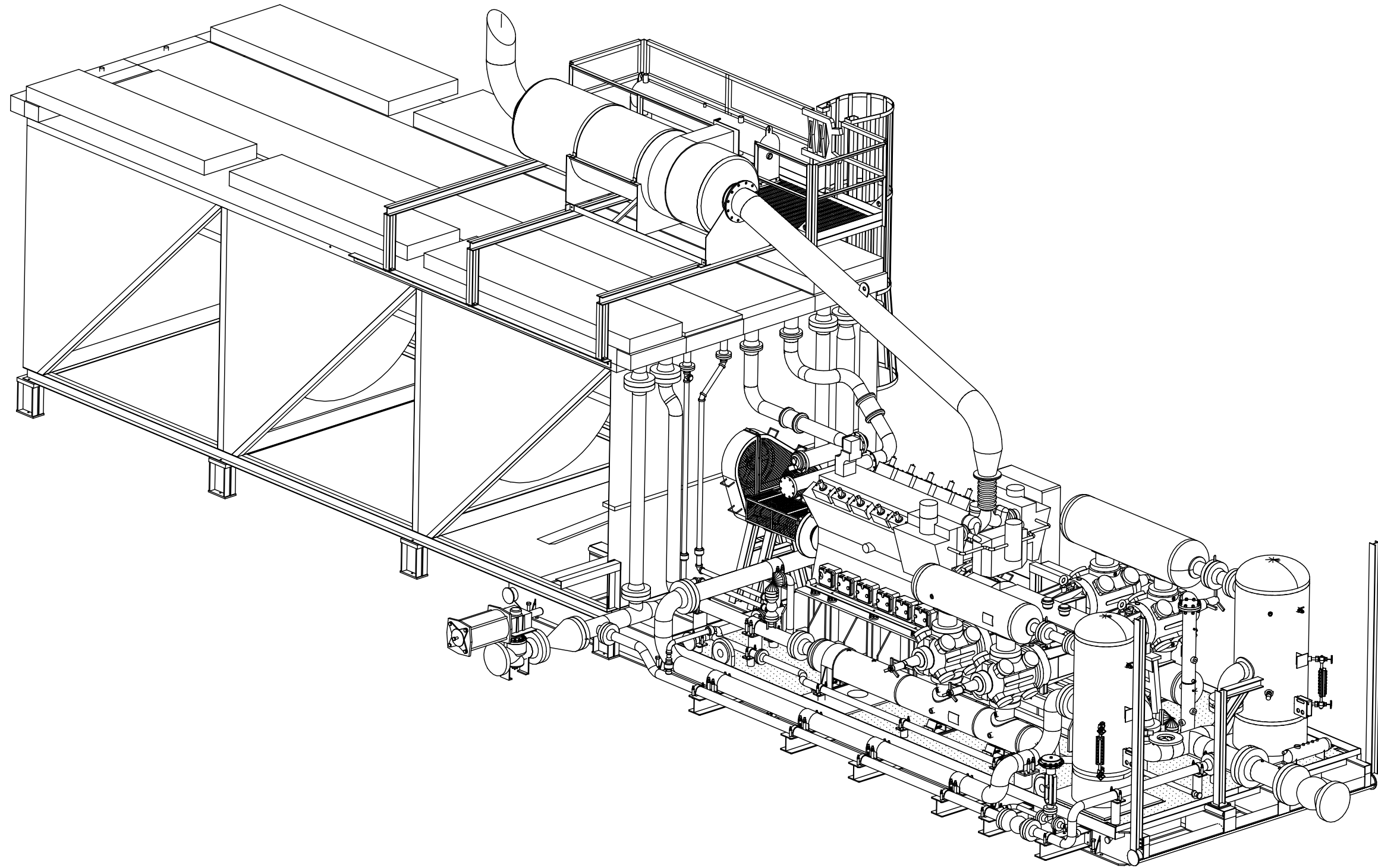
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COOLER END VIEW

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ISOMETRIC VIEW

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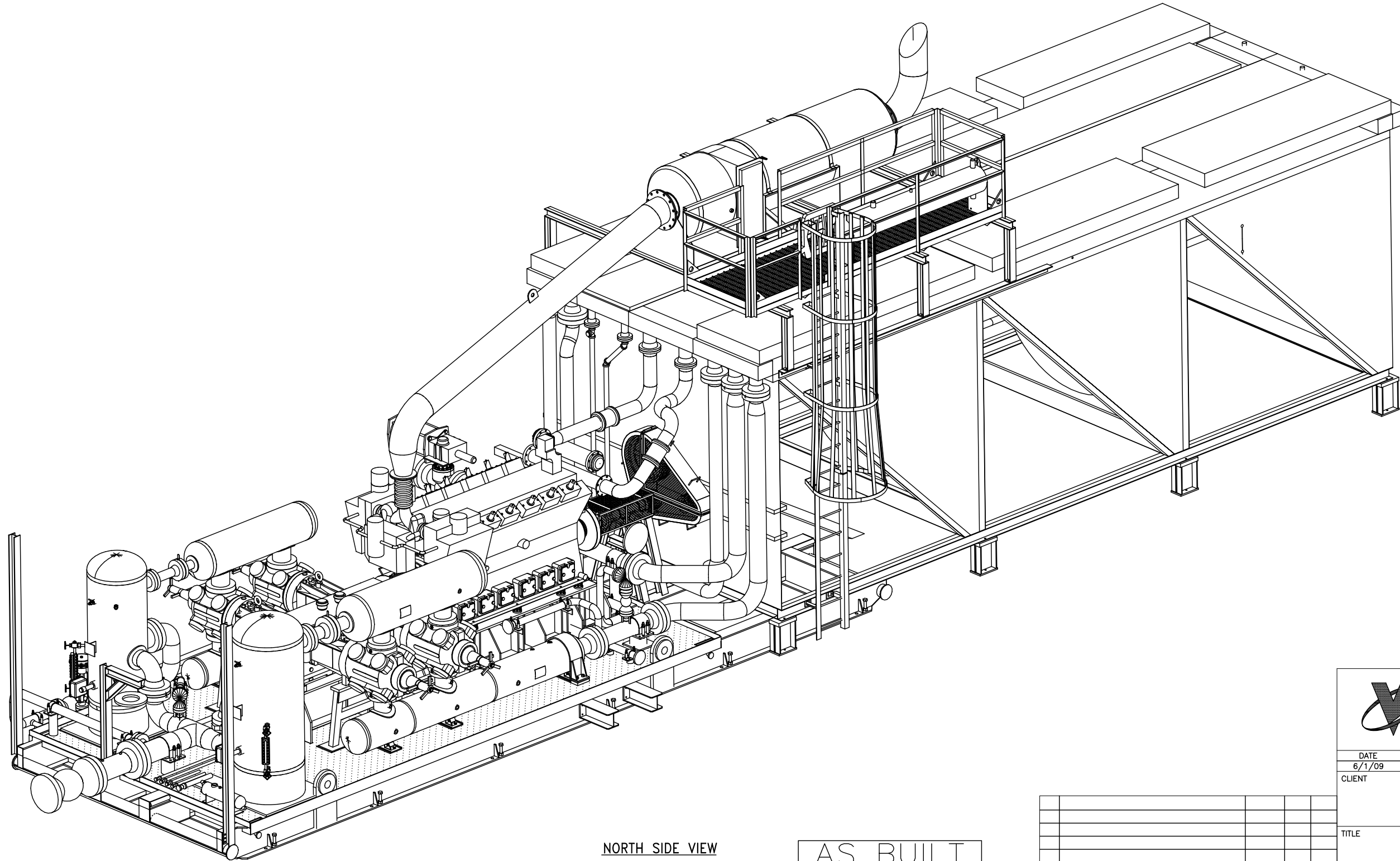
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NORTH SIDE VIEW

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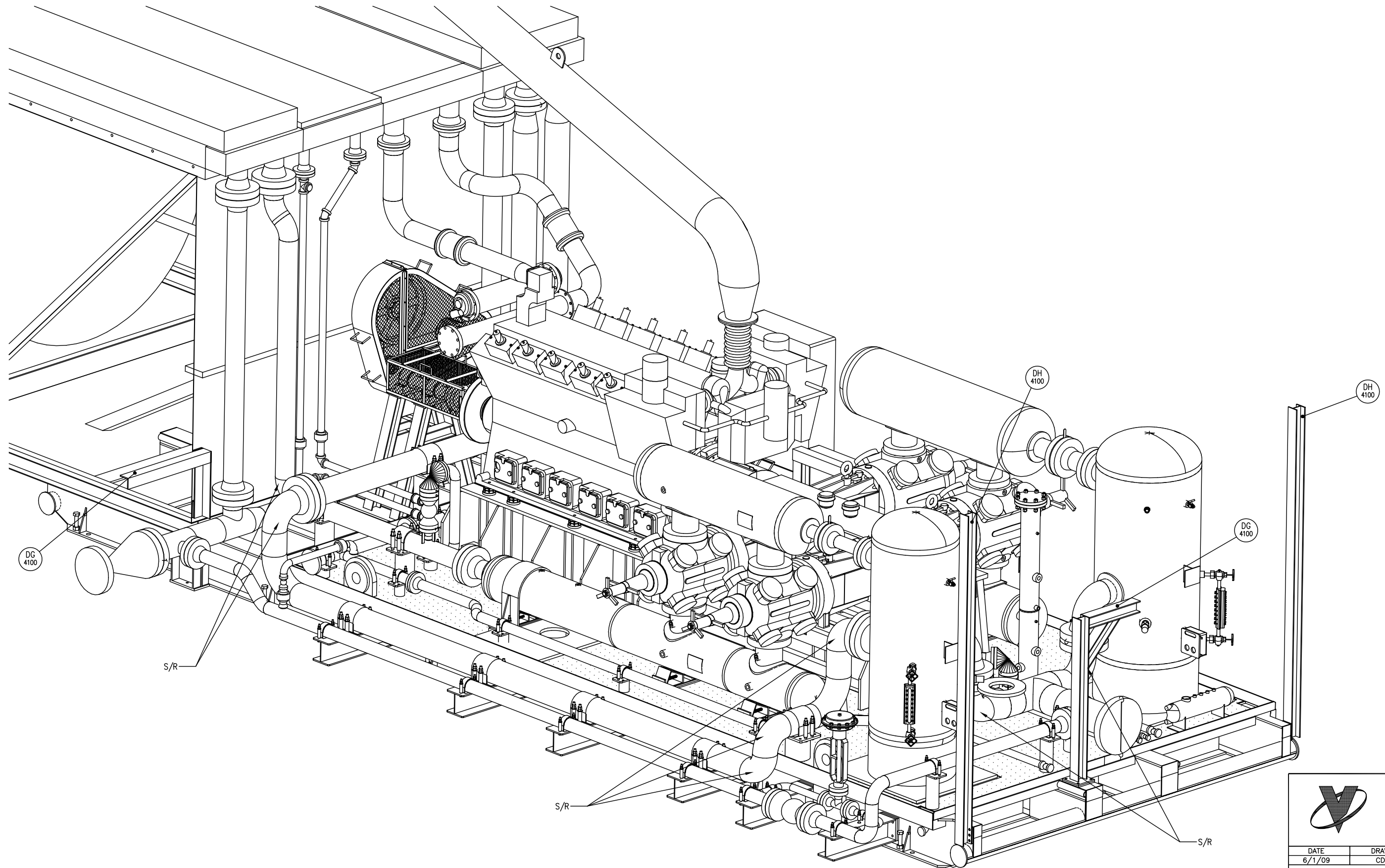
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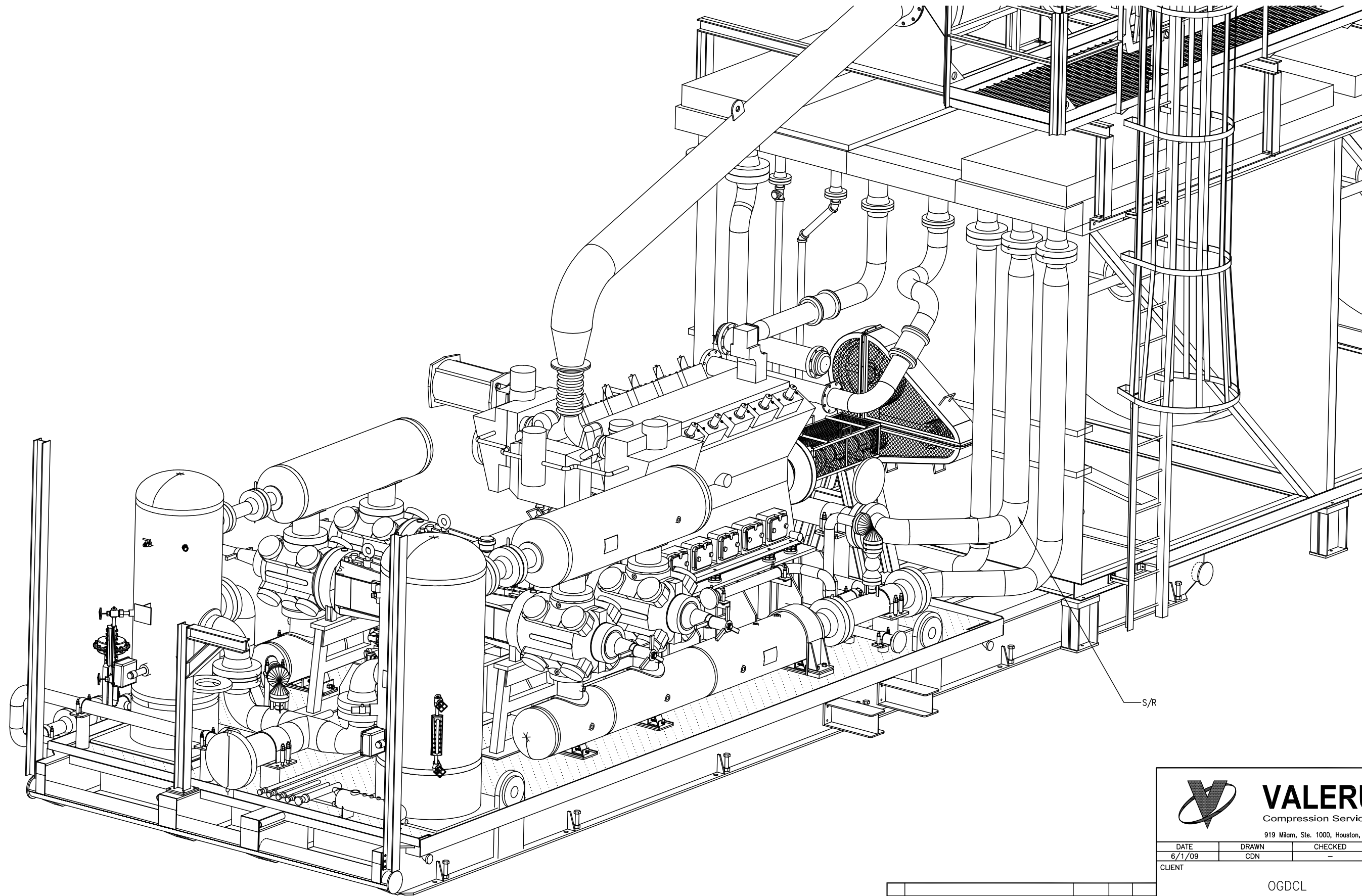
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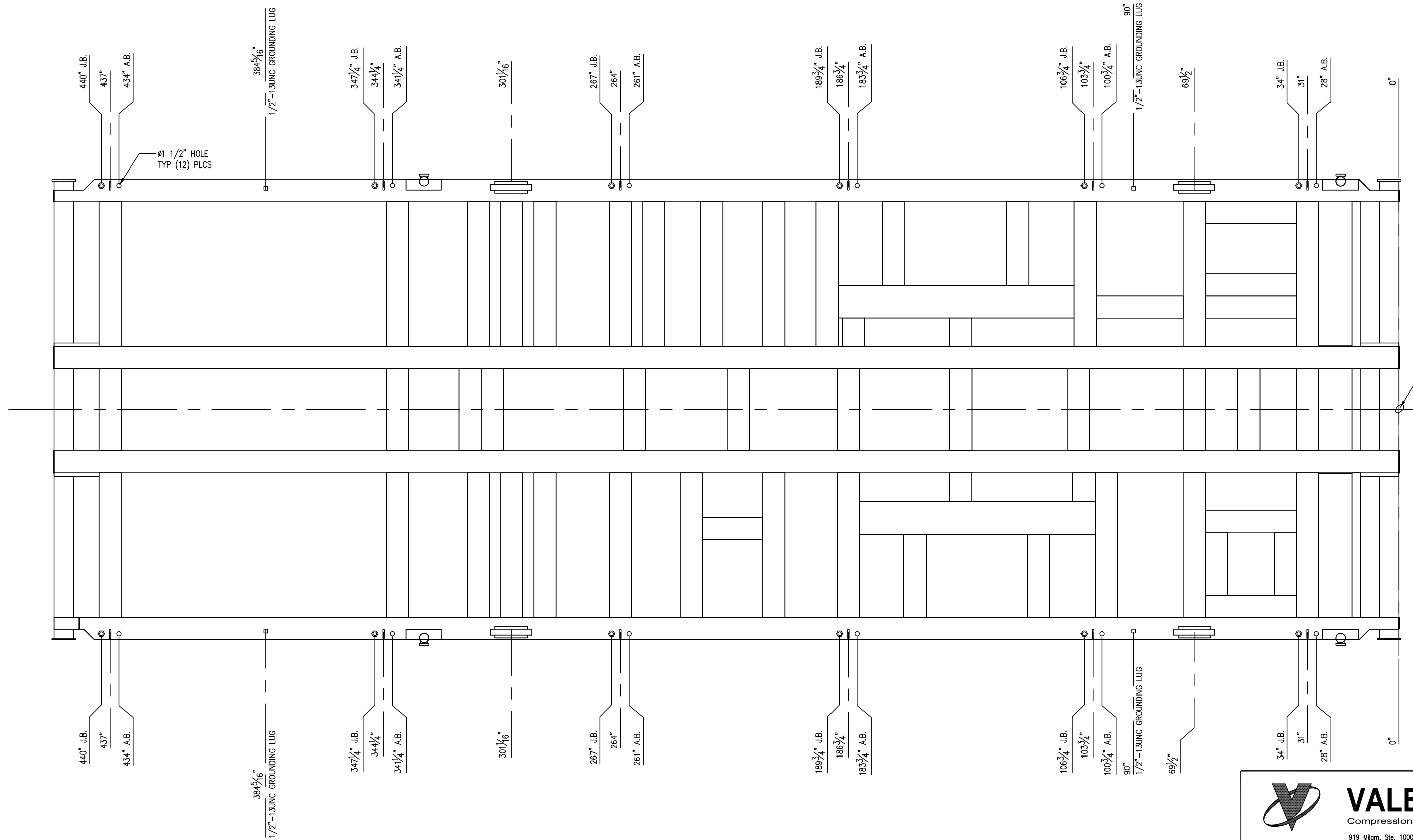
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 GENERAL ARRANGEMENT
 ISO VIEW


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V38690200-10-02	SHT# 10 OF 15	2

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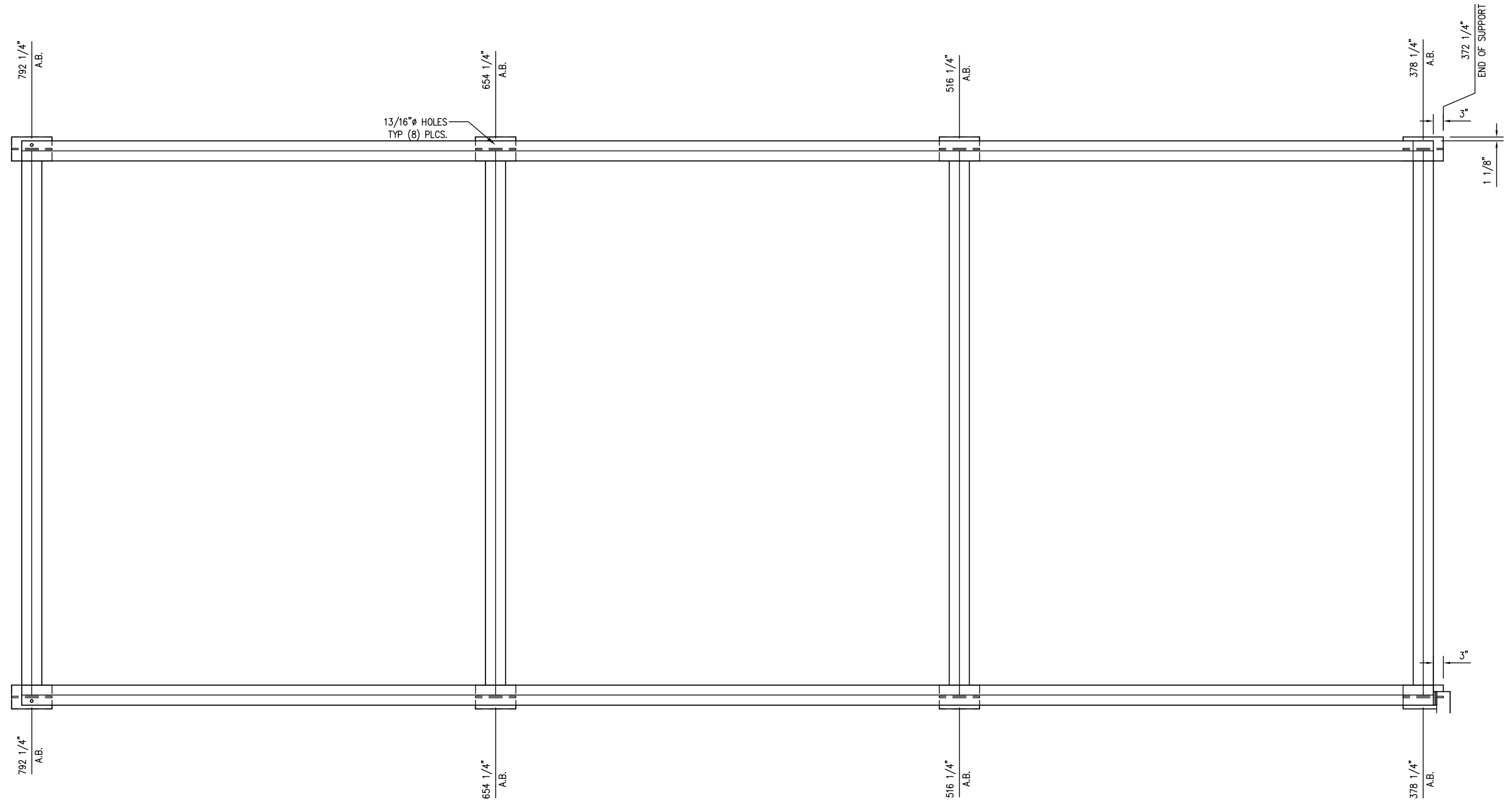


AS BUILT
DATE 12/15/09
 **VALERUS**
Compression Services, LP
919 MILAM, SUITE 1000, HOUSTON, TEXAS, 77002

REV.	DESCRIPTION	DATE	BY	CK
2	AS BUILT - NO CHANGES	12/15/09	RB	ML/RL
1	REVISED PER ECN #552	11/19/09	RB	ML/RL
0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL

 VALERUS Compression Services, LP 919 Milam, Ste. 1000, Houston, TX, 77002			
CLIENT OGDCL			
TITLE COMPRESSOR PACKAGE GENERAL ARRANGEMENT ANCHOR BOLT LAYOUT			
SCALE: 3/4" = 1'-0"		FG# FG102477	JOB#
DRAWING NUMBER V38690200-11-02		SHEETS 11 OF 15	REV 2


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13/16" Ø HOLES
TYP (8) PLCS.


NOTE:
1. ALL DIMS ARE FROM DATUM.

AS BUILT
DATE 12/15/09



VALERUS
Compression Services, LP
919 MILAM, SUITE 1000, HOUSTON, TEXAS, 77002

REV.	DESCRIPTION	DATE	BY	CK
2	AS BUILT - NO CHANGES	12/15/09	RB	ML/RL
1	REVISED PER ECN #552	11/19/09	RB	ML/RL
0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL



VALERUS
Compression Services, LP
919 Milam, Ste. 1000, Houston, TX, 77002

DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT
OGDCL

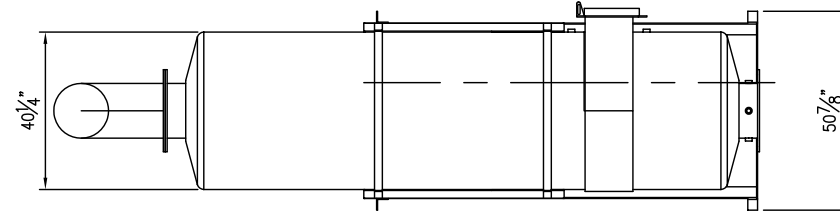
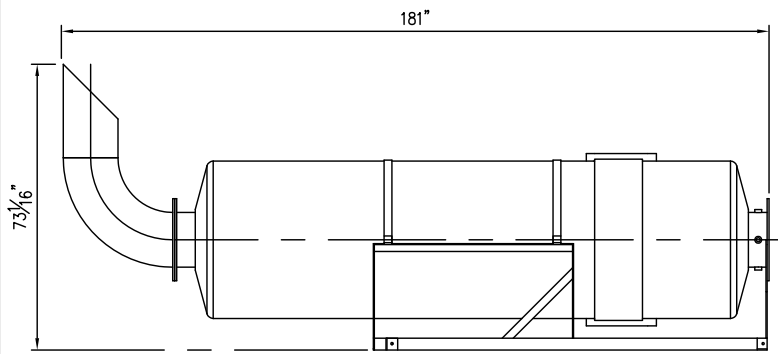
TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
ANCHOR BOLT LAYOUT

SCALE:	FG#	JOB#
3/4" = 1'-0"	FG102477	

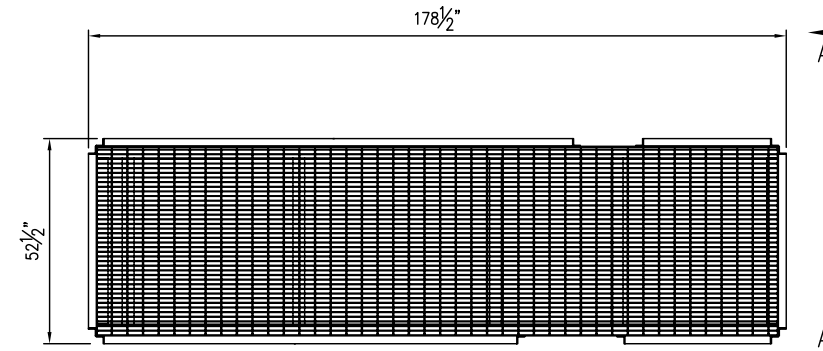
DRAWING NUMBER	SHEETS	REV
V38690200-12-02	SHT# 12 OF 15	2

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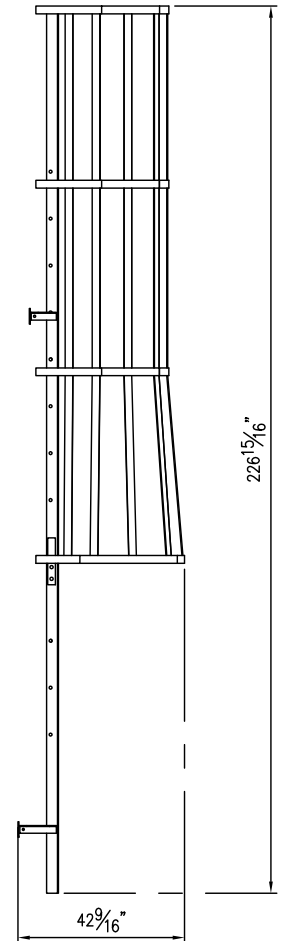
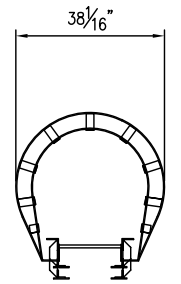
BAY CITY RESPONSIBLE FOR SHIP LOOSE ITEMS (SHEETS 13-15) FOR ALL 14 UNITS



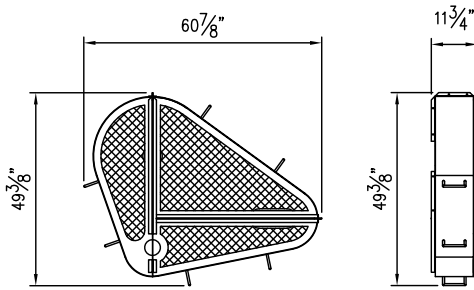
MUFFLER/MUFFLER SUPPORT



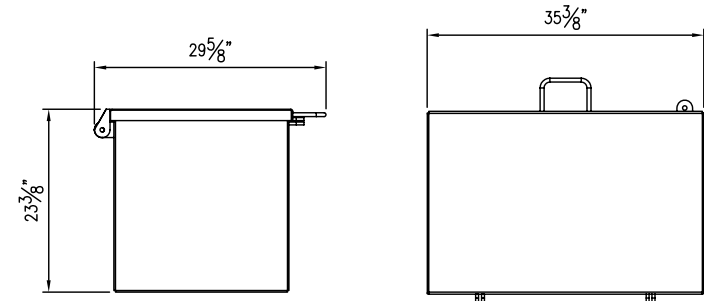
CATWALK



LADDER

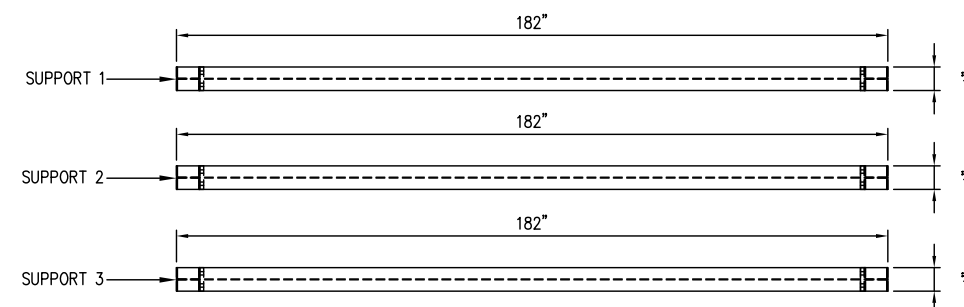


BELT GUARD

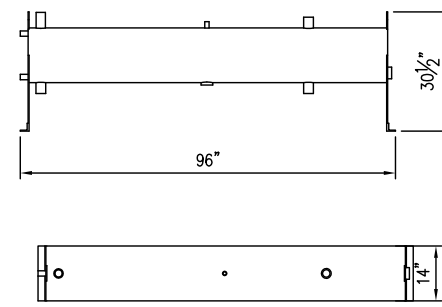


SPARE PARTS BOX

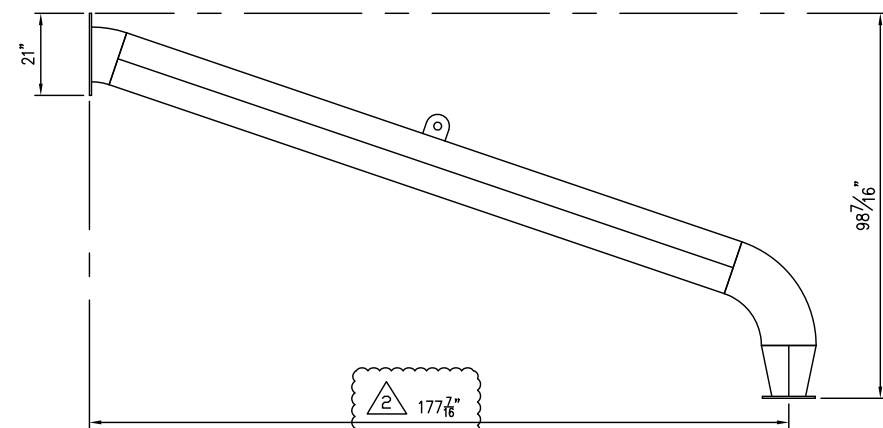
SCALE: 1"=1'-0"



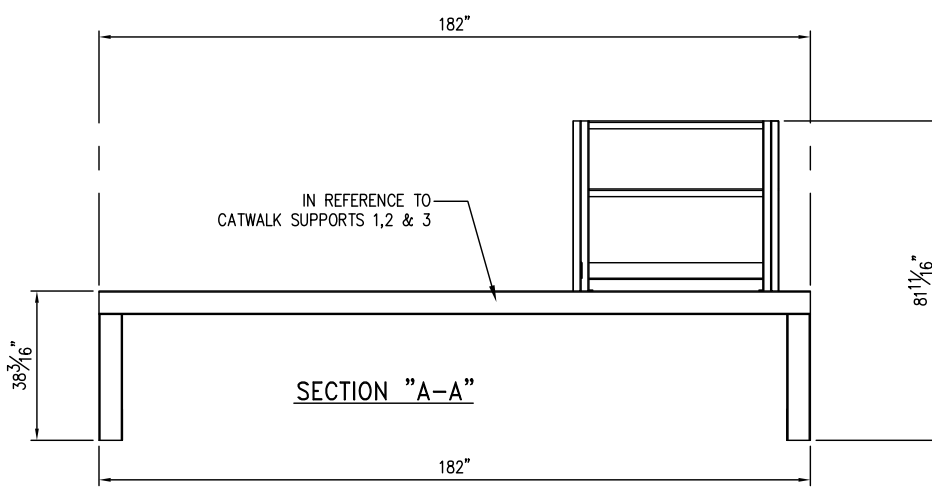
CATWALK SUPPORTS PLAN VIEW



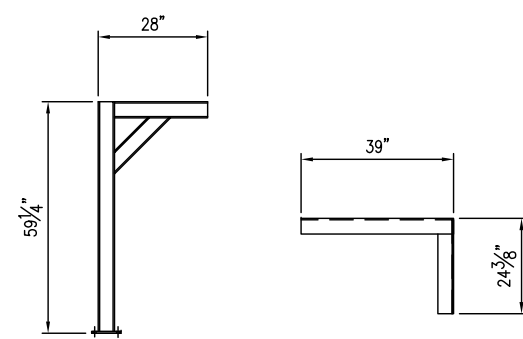
SURGE TANK



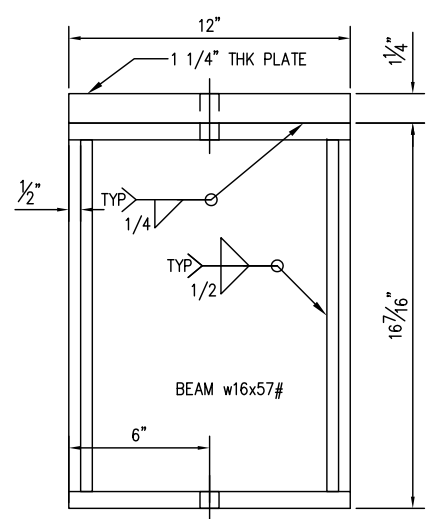
MUFFLER PIPE



SECTION "A-A"

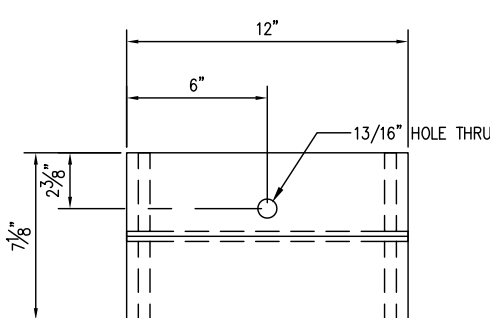


GAS DETECTOR SUPPORTS
ONE (1) EACH REQ'D

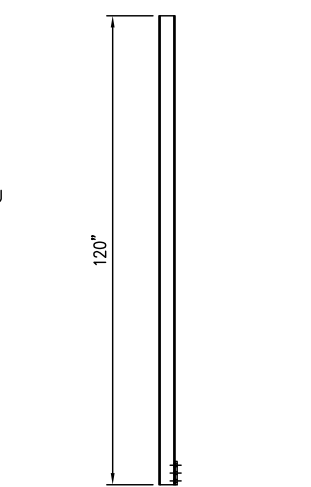


COOLER SUPPORT

EIGHT (8) REQ'D
EIGHT (8) 5/8" x 4" LG. BOLTS/NUTS



COOLER SUPPORT



FIRE DETECTOR SUPPORT

TWO (2) REQ'D

AS BUILT
DATE 12/15/09
VALERUS
Compression Services, LP
919 MILAM, SUITE 1000, HOUSTON, TEXAS, 77002

VALERUS
Compression Services, LP
919 Milam, Ste. 1000, Houston, TX, 77002

DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT: OGDLC

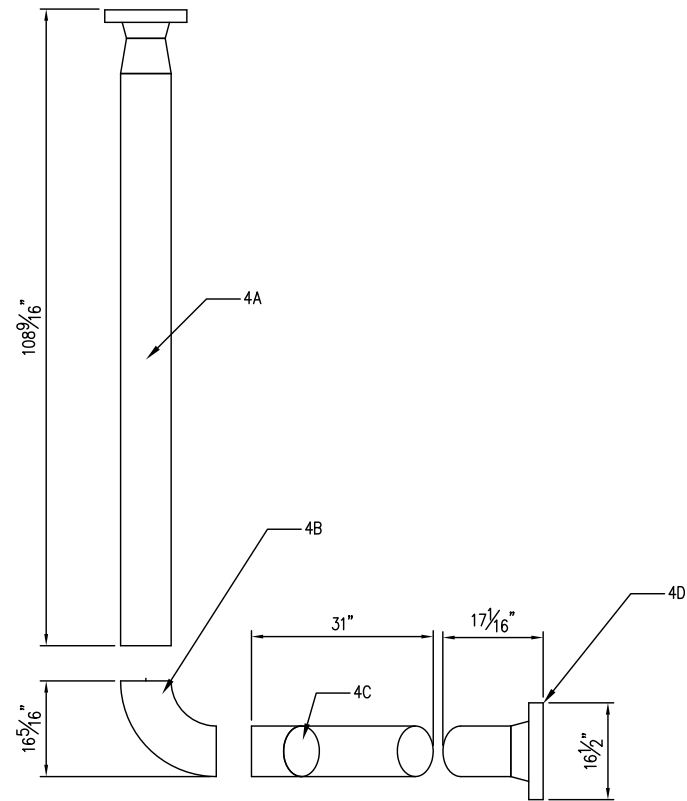
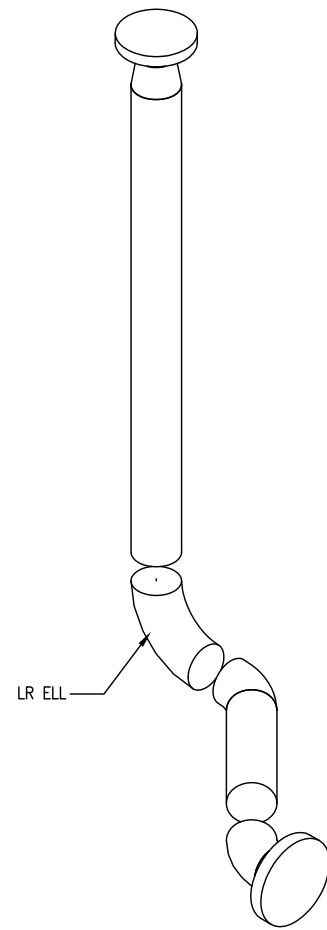
TITLE: COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
SHIP LOOSE SHEET

REV.	DESCRIPTION	DATE	BY	CK
2	AS BUILT - MUFFLER DIMENSION	12/15/09	RB	ML/RL
1	REVISED PER ECN #552	11/19/09	RB	ML/RL
0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL

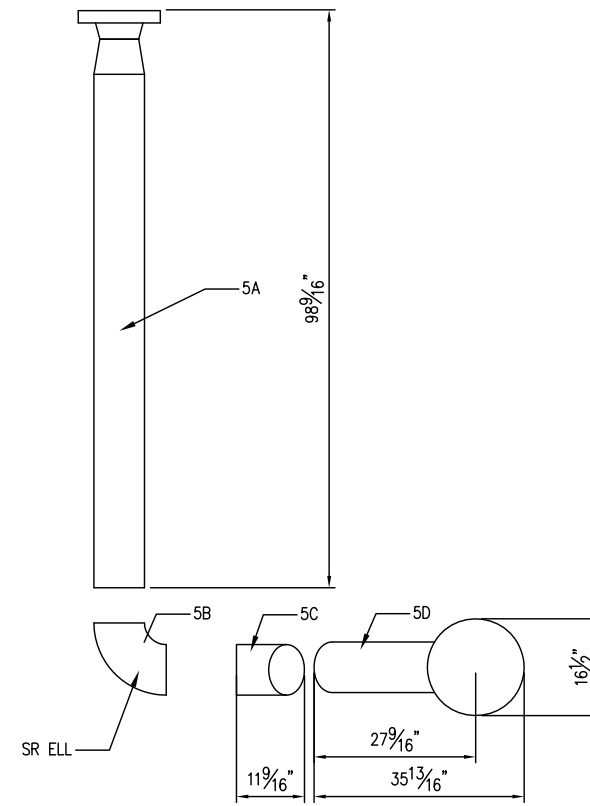
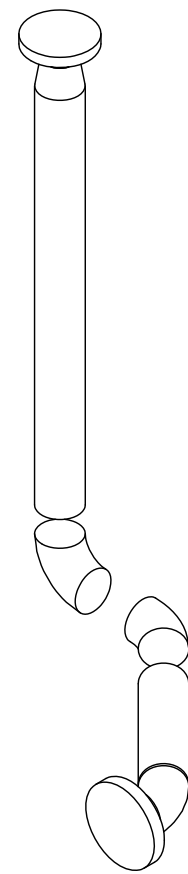
SCALE: 1/2"=1'-0"	FG# FG102477	JOB#
DRAWING NUMBER: V38690200-13-02	SHEETS: 13 OF 15	REV: 2

NOTE:
1. ALL DIMS ARE FROM DATUM.

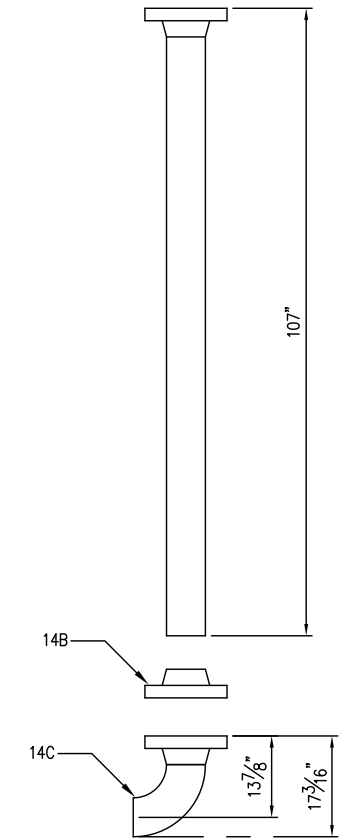
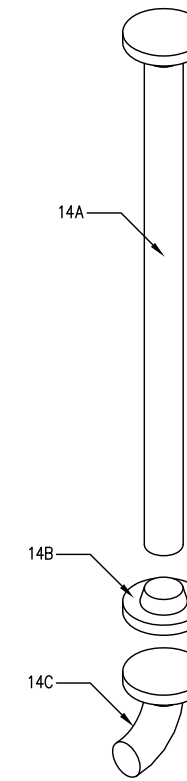
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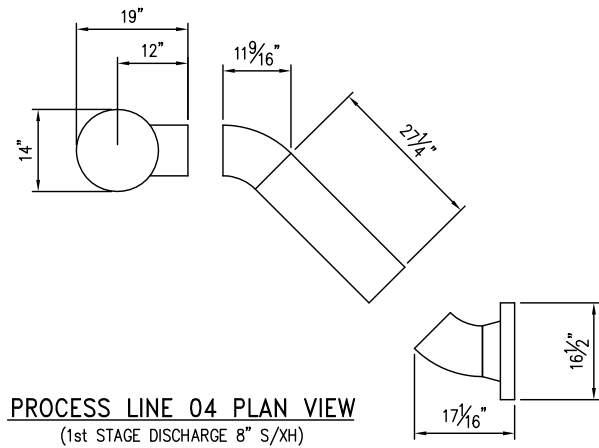
PROCESS LINE 04 ELEVATION VIEW
(1st STAGE DISCHARGE 8" S/XH)



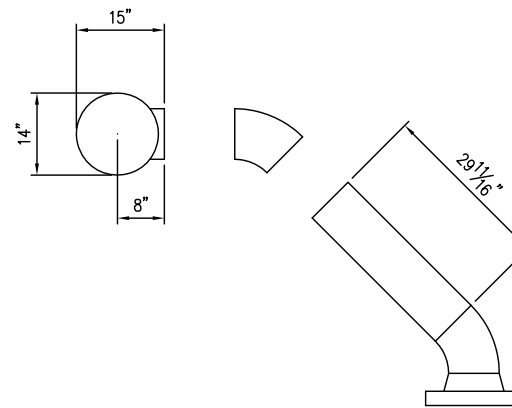
PROCESS LINE 05 ELEVATION VIEW
(2nd STAGE SUCTION 8" S/XH)



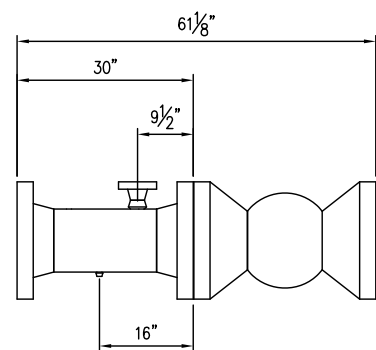
PROCESS LINE 14 PLAN VIEW
(FINAL DISCHARGE 6" S/XH)



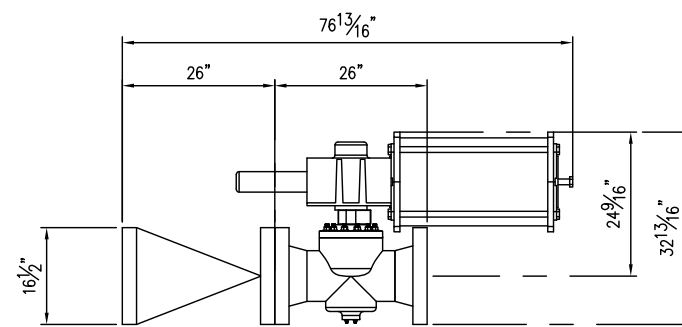
PROCESS LINE 04 PLAN VIEW
(1st STAGE DISCHARGE 8" S/XH)



PROCESS LINE 05 PLAN VIEW
(2nd STAGE SUCTION 8" S/XH)

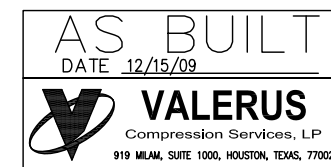


SUCTION SPOOL
(1st STAGE SUCTION SPOOL 10" S/XH)



FINAL DISCHARGE SPOOL
(8" S/XH)

NOTE:
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REV.	DESCRIPTION	DATE	BY	CK
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0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL

VALERUS
Compression Services, LP
919 Milam, Ste. 1000, Houston, TX, 77002

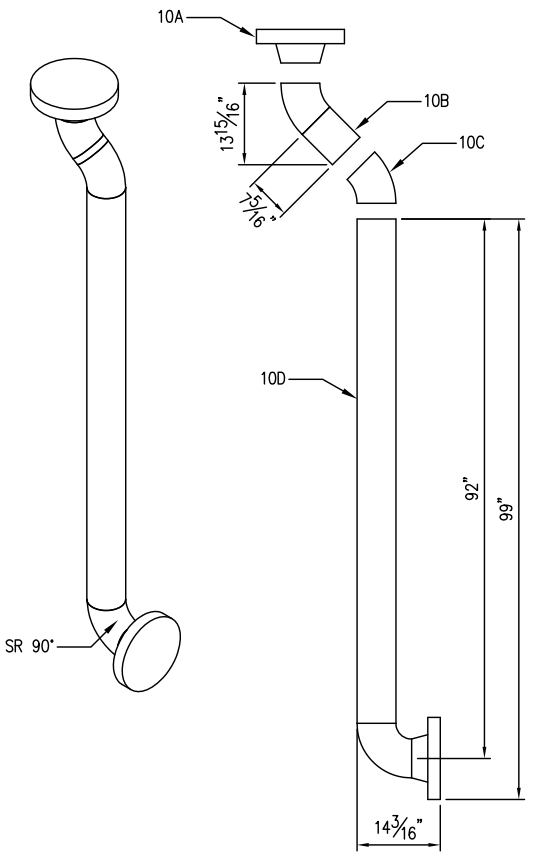
DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT: OGDCL

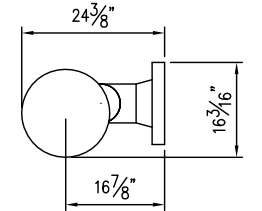
TITLE: COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
SHIP LOOSE PIPE SPOOLS SHT 1

SCALE:	FG#	JOB#
1/4" = 1'-0"	FG102477	
DRAWING NUMBER	SHEETS	REV
V38690200-14-02	SHT# 14 OF 15	2

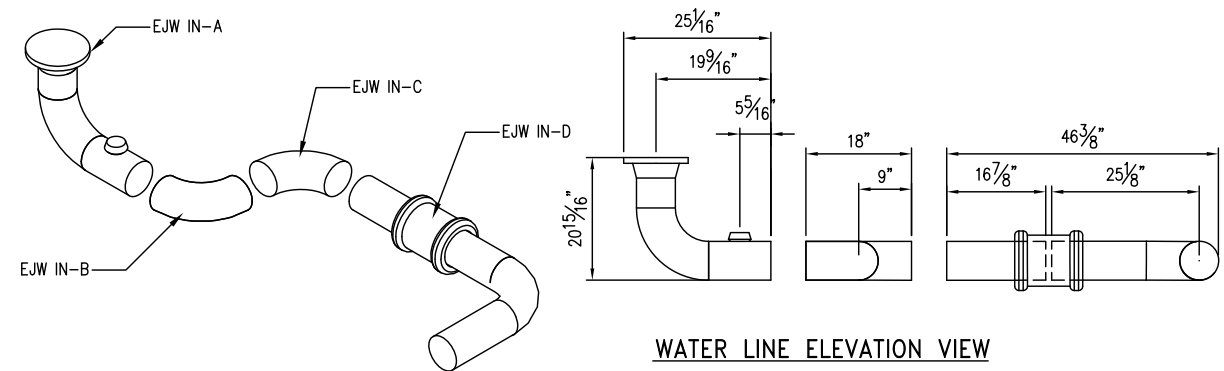
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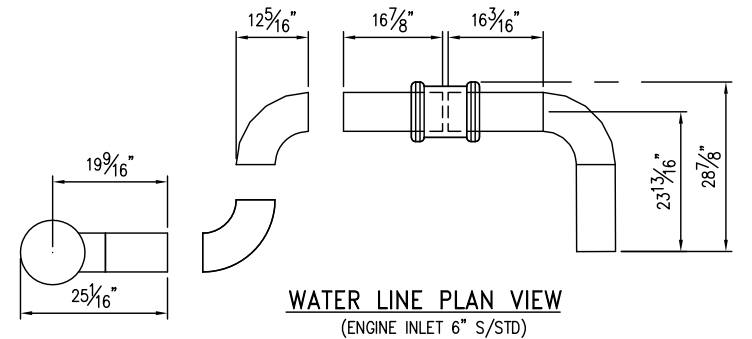
PROCESS LINE 10 ELEVATION VIEW
(2nd STAGE DISCHARGE 6" S/XH)



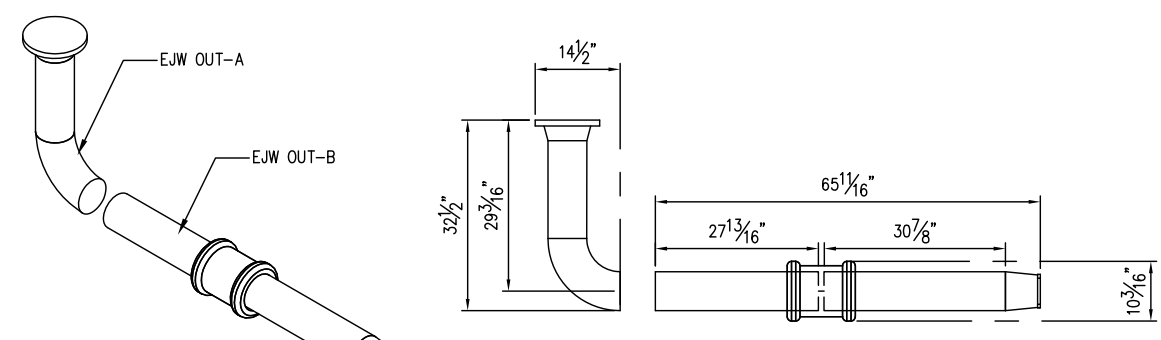
PROCESS LINE 10 PLAN VIEW
(2nd STAGE DISCHARGE 6" S/XH)



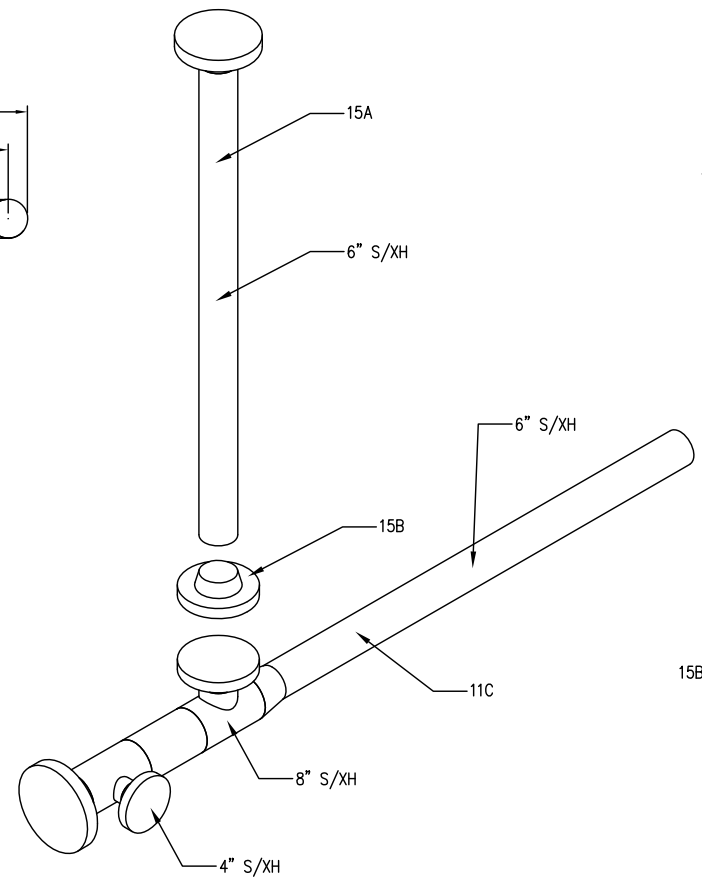
WATER LINE ELEVATION VIEW



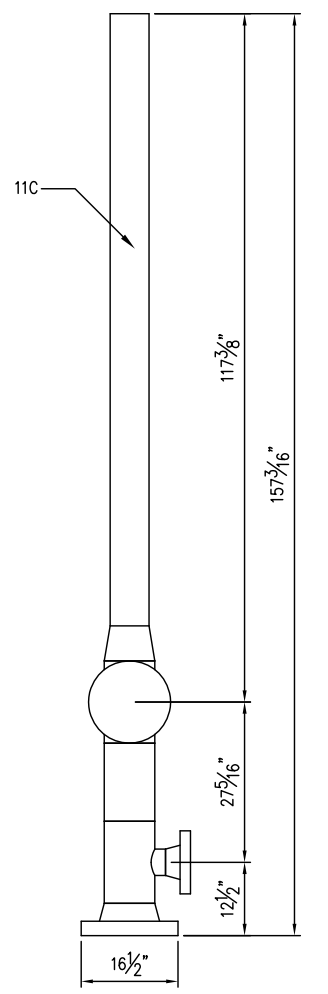
WATER LINE PLAN VIEW
(ENGINE INLET 6" S/STD)



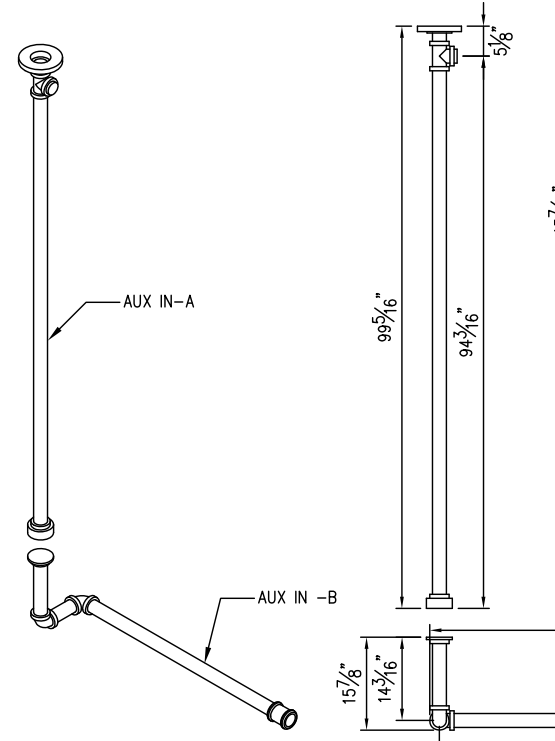
WATER LINE
(ENGINE OUTLET 6" S/STD)



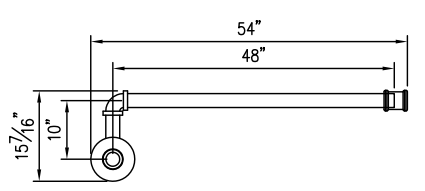
PROCESS LINE 15 ELEVATION VIEW
(BYPASS/DISCHARGE)



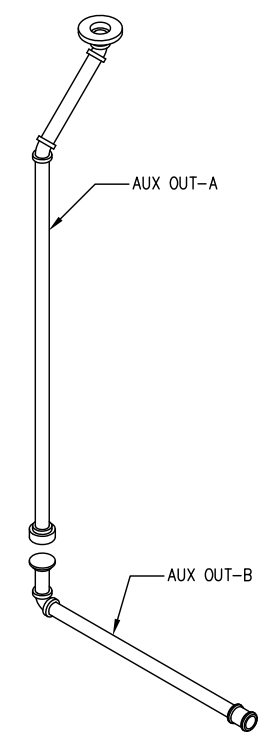
PROCESS LINE 11 PLAN VIEW
(BYPASS/DISCHARGE 6", 8" & 4" S/XH)



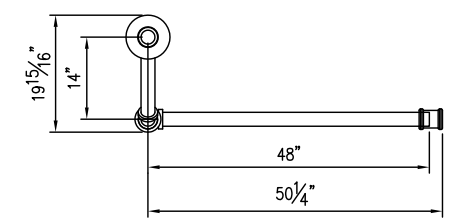
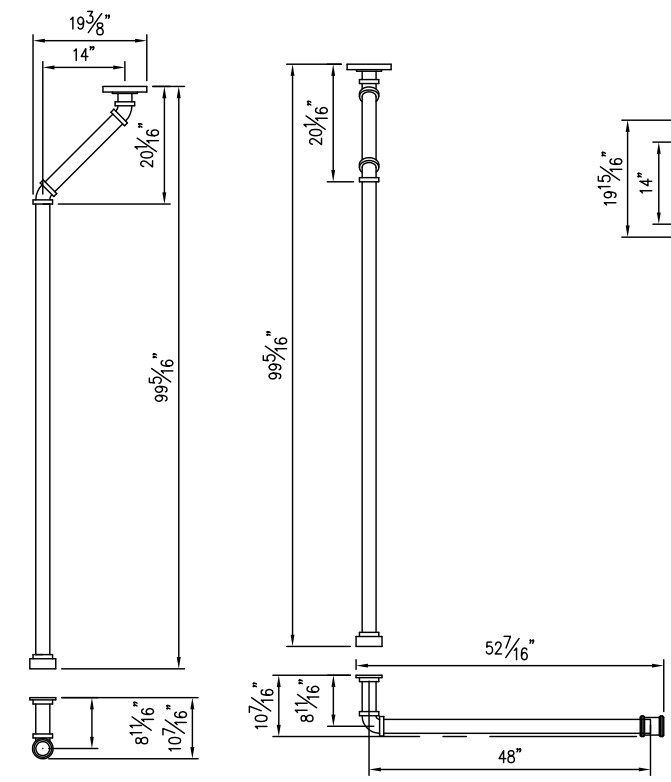
AUXILIARY-IN ELEVATION VIEW
(AUX IN-A & B 2" NPT S/XH)



AUXILIARY-IN PLAN VIEW
(AUX IN-A & B 2" NPT S/XH)



AUXILIARY-OUT ELEVATION VIEW
(AUX OUT-A & B 2" NPT S/XH)



AUXILIARY-OUT PLAN VIEW
(AUX OUT-A & B 2" NPT S/XH)

NOTE:
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REV.	DESCRIPTION	DATE	BY	CK
2	AS BUILT - NO CHANGES	12/14/09	RB	ML/RL
1	REVISED PER ECN #552	11/19/09	RB	ML/RL
0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL

AS BUILT
DATE 12/15/09
VALERUS
Compression Services, LP
919 MILAM, SUITE 1000, HOUSTON, TEXAS, 77002

VALERUS
Compression Services, LP
919 Milam, Ste. 1000, Houston, TX, 77002

DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT: OGDCL

TITLE: COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
SHIP LOOSE PIPE SPOOLS SHT 2

SCALE: 1/4" = 1'-0"	FG# FG102477	JOB#
DRAWING NUMBER	SHEETS	REV
V38690200-15-02	SHT# 15 OF 15	2



VALERUS COMPRESSION

Document #: KT-ECR-1104-63-LL-001 REV.00

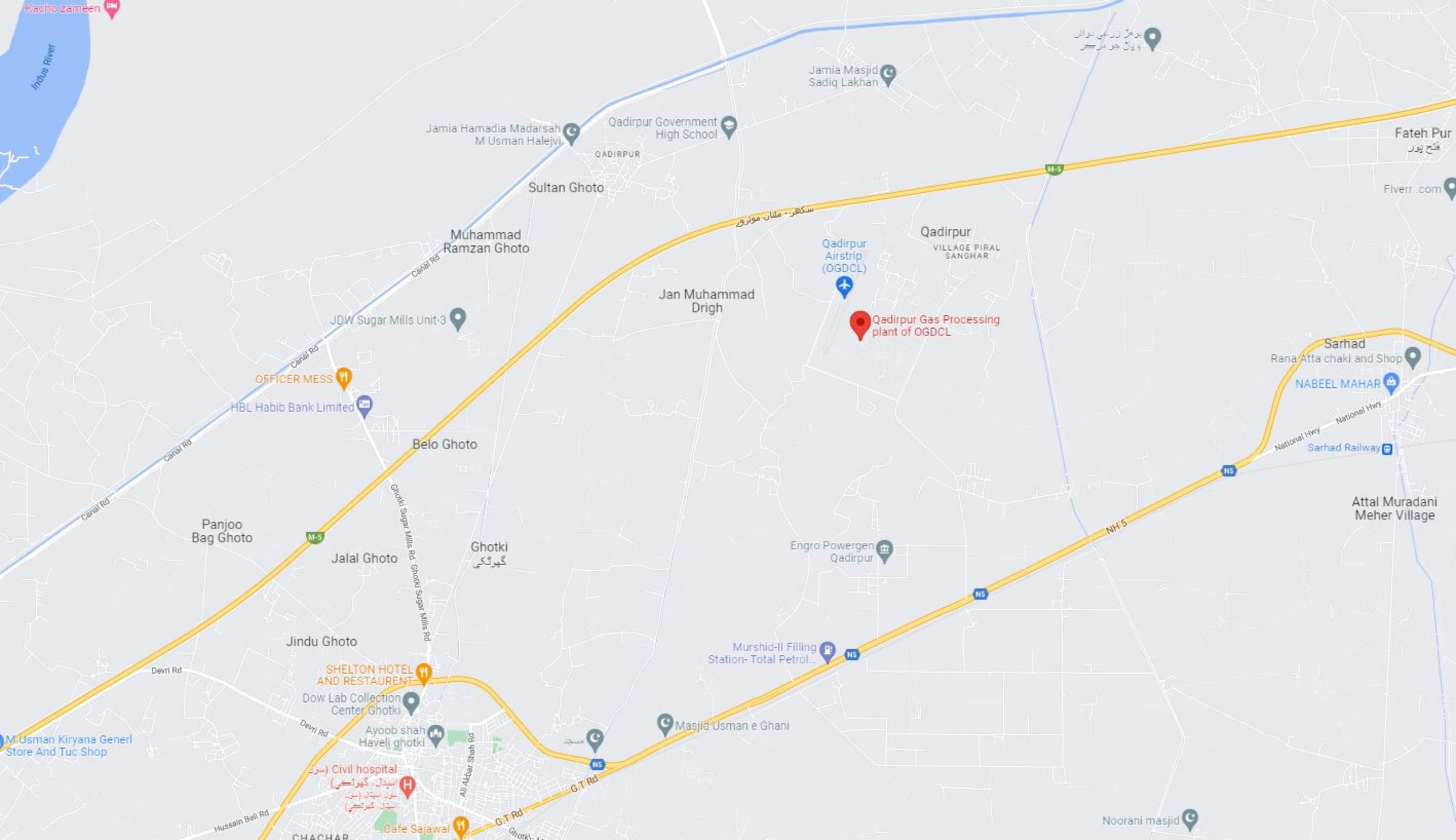
Compressor Package Weight

Unit Number FG102477
Customer OIL AND GAS DEVELOPMENT COMPANY
Description 5794/JGT4 (2)9.125T x 6.75T

Components Shipping With Skid		
Engine	22,750 Lbs.	WAUK 5794/7044GSI
Frame & Cylinders	20,967 Lbs.	JGT
Crosshead Supports	1,382 Lbs.	FG501104
Coupling	559 Lbs.	FS70-28
Scrubbers	8,952 Lbs.	FG501167 & FG501168
Bottles	8,735 Lbs.	FG501169-FG501172
Skid	58,147 Lbs.	FG501173
Fuel Filter	250 Lbs.	FG102031
Weld Pipe	6,646 Lbs.	
Misc. Piping, Etc.	5,136 Lbs.	4 % of on-skid items

Additional Components For Complete Package		
Ladder	441 Lbs.	
Muffler/Support	2,320 Lbs.	EAC4-67-14/FG102188
Exhaust Pipe	900 Lbs.	
Surgetank	380 Lbs.	FG102013
Catwalk	780 Lbs.	FG501265
Cooler	43,500 Lbs.	49598
Additional Weld Pipe	4,189 Lbs.	
Valves	2,800 Lbs.	
Misc. Piping, Etc.	1,106 Lbs.	2 % of ship loose items

Total w/ Cooler	189,940 Lbs.
Total w/o Cooler	133,530 Lbs. (Shipping Weight)



Kachho zameen

Indus River

پوهن گزشتی ہوائی
۶ پانچ جو مارٹر

Jamia Masjid
Sadiq Lakhan

Jamia Hamadia Madrasah
M Usman Halejvi

Qadirpur Government
High School

QADIRPUR

Sultan Ghoto

Muhammad
Ramzan Ghoto

JDW Sugar Mills Unit-3

OFFICER MESS

HBL Habib Bank Limited

Belo Ghoto

Jan Muhammad
Drigh

Qadirpur
Airstrip
(OGDCL)

Qadirpur Gas Processing
plant of OGDC

Qadirpur
VILLAGE PIRAL
SANGHAR

Fateh Pur
فتح پور

Fiverr.com

Sarhad
Rana Atta chaki and Shop

NABEEL MAHAR

Attal Muradani
Meher Village

Panjoo
Bag Ghoto

Jalal Ghoto

Ghotki
گھوٹکی

Engro Powergen
Qadirpur

Murshid-II Filling
Station- Total Petrol...

Masjid Usman e Ghani

Jindu Ghoto

SHELTON HOTEL
AND RESTAURENT

Dow Lab Collection
Center Ghotki

Ayooob shah
Haveli ghotki

Civil hospital
(سول)
ہسپتال، گھوٹکی
(سول)
ہسپتال (سول)
ہسپتال، گھوٹکی

Cafe Sajawal

Noorani masjid

M.Usman Kiryana Generl
Store And Tuc Shop

CHACHAR

Hussain Bell Rd

Ali Akbar Shah Rd

G-T Rd

G-T Rd

Ghotki

M-5

M-5

N5

N5

N5

N5

Canal Rd

Canal Rd

Canal Rd

Canal Rd

Canal Rd

Canal Rd

Canal Rd

سکھڑ - ملتان موٹروے

National Hwy
National Hwy
Sarhad Railway