



OIL & GAS DEVELOPMENT COMPANY LIMITED
KPD-TAY PLANT.



TOR / SOW FOR HIRING OF TECHNICAL SERVICES FOR INSTALLATION, PRE-COMMISSIONING / COMMISSIONING OF GAS COMPRESSOR PACKAGE AT KPD-TAY PLANT.

Tender Doc No. TE/MECH/WT/COMP/KPD-0002/2023

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.

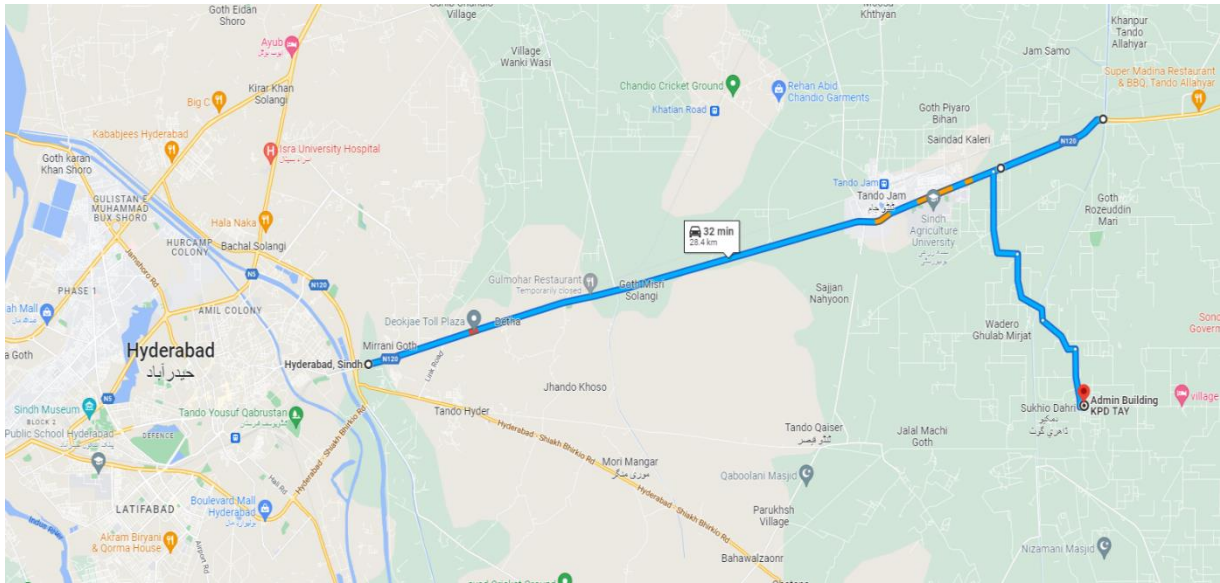


Figure 1: Location of the Plant

OGDCL intends to install 01 No. Gas Engine Driven Reciprocating Compressor Package at KPD-TAY Plant in Tando Jam, district Hyderabad for which Services from reputed Services Companies are required as per scope of work described in this document.

LIST OF ABBREVIATIONS USED:

Abbreviation	Description
ESDV	Emergency Shutdown Valve
BDV	Blowdown Valve
LCP	Local Control Panel

2 SCOPE OF WORK

All the activities to be performed in line with industry best practices, superior quality workmanship and in safe manner. The Scope of Work comprises of following activities:

- 2.1 Supply of Technical Services for Installation of Auxiliary Equipment / Piping / Components / Valves and Accessories of Compressor Package and Cooler in line with drawings and tagging for mechanical completion of compressor package. 01 Crane of 30 Tonnes Capacity along with Crane Operator will be provided by OGDCL to assist unloading of Auxiliary Equipment / Piping / Components / Valves and Accessories of Compressor Package from Trailer(s) and installation while all other resources including manpower, PPEs & Safety Gears, tools & tackles etc. will be the responsibility of Contractor. Unloading & Placement of Compressor & Cooler Skid is not part of this SOW and will be arranged separately by OGDCL. However, Contractor will depute a competent personnel to witness and supervise unloading activity and to ensure proper alignment and leveling of Compressor & Cooler Skids.
- 2.2 Installation & Fitting of New SS Tubing (approximately 150 ft cumulative length) and 12 Nos. Single Pair Cables in tray / conduit for 03 Nos ESDVs (01-Ea installed on Inlet, Outlet and Liquid Drain Line) and 01 No BDV. The cables to be laid from ESDVs/ BDV to Local Control Panel (with total approximate cumulative length 250ft) along with glanding, dressing, drilling of cable entry holes in LCP and terminations on both sides.

- 2.3 Inspection of Terminations on Field & Panel Side, verification of security loops as per C&E for list of I/Os (Provided in clause 8) and troubleshooting of identified issues.

3 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 the 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.

4 PROJECT EXECUTION PLAN

No	Activity Description	Time for Activity	Notes
1.	Award of Contract	0	Start of Contract
2.	Kick off meeting	1 day	
3.	Site visit by Contractor team (onsite)	1~2 days	
4.	Execution of Scope of Work	1.5~2 week	After site visit, Tentative schedule. 10 th -30 th Nov 2023

5 METHODOLOGY AND EXECUTION STRATEGY

- 5.1 Bidders are encouraged to consider JV and/or engagement of "Subject Specialist' resources, for all such work where expertise may not be available within their existing organization. The Company’s objective is to carry out all jobs under defined Scope of Work in Safe manner and in line with best Industrial Practices.
- 5.2 Contractor will ensure use of 3rd party certified tools and equipment for execution of works (where applicable by standard practice / law).
- 5.3 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.

6 GENERAL TERMS & CONDITIONS

- 6.1 Company will provide food and accommodation to Contractor’s personnel at their camp located within the close proximity of KPD-TAY Gas Processing Plant.
- 6.2 Execution of TOR/SOW is expected to be completed between 10th and 30th Nov 2023. However, in case early-start/delay in above dates due to any unforeseen reasons, the contractor shall be responsible to execute the TOR/SOW as per OGDCL timeline at no additional cost to the company.
- 6.3 All documents to be produced by Contractor will be in English language.
- 6.4 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.
- 6.5 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 / tools / machinery are not on-board to carry out the SOW.

- 6.6 Contractor shall submit progress report of executed and in-progress jobs on daily basis along with look ahead for next day.
- 6.7 Contractor shall perform insulation along with cladding of Exhaust Pipe of Engine. Material required in this regard will be supplied by the company.
- 6.8 Contractor shall perform inspection & maintenance of Engine & Cooler and its auxiliaries including but not limited to inspection / replacement of spark plugs, air Filters, oil filters, inspection & maintenance of belt drives, lube oil pumps, fuel gas filters & starting motors. Detailed inspection of Compressor Internals such as valves, cross head & guides, cylinder packings, compressor bearings, lube oil pumps & FFL circuit etc.
- 6.9 Contractor shall ensure that all piping, tubings and equipment are purged and cleaned properly before installation of connections and interfaces.
- 6.10 Contractor shall arrange all Tools and Tackles, PPEs and work specific safety gears for its manpower and shall submit calibration third party certifications, where applicable.
- 6.11 All consumables required for execution of jobs under this SOW will be provided by the OGDCL.
- 6.12 Contractor to ensure use of certified lifting tools and accessories for safe lifting and rigging jobs where required during installation works.
- 6.13 Contractor to ensure that all jobs are executed under direct supervision of field specialists and competent personnel (separate for instrumentation & mechanical works) having minimum 10 years of relevant experience.

7 DOCUMENTS TO BE SUBMITTED ALONG WITH TECHNICAL BIDS

Following documents should be attached with the technical bids:

- 7.1 CVs. of Project Manager and Teams Leads proposed by the bidder to carry out this SOW. The Manager / Team Lead(s) CVs should include exact description of similar projects / work completed along with the details of their scope/role.
- 7.2 List of year-wise projects completed in last 10 years.
- 7.3 Detailed Execution Methodology with Level-IV Schedule on MS Project
- 7.4 Resource Deployment Plan.
- 7.5 Organization chart for this project scope.
- 7.6 CVs for the team members / supervisors covering overall proposed organization to undertake this project

8 Instrument & Controls Related Scope Of Work For Reciprocating Compressor Package Installation / Commissioning at KPD-TAY PLANT.

A. GENERAL REQUIREMENT:

- i. Provision of all calibration equipment/Tools required for attending the mentioned jobs will be responsibility of contractors.
- ii. All the Testing, Calibration Equipment / Tools as stated above must be 3rd party certified having valid certification for attending Instrument related SOW; the relevant certificates shall be submitted to OGDCL Site Team 1-week prior to start of installation activities. All the Testing Calibration Equipment must be in line with Industry Standards and fit for use; any sort of non-conformance in this respect will not be acceptable.
- iii. Contractor to provide inspection certificates and calibration certificates (Hard and Soft copy) of all instruments attended during commissioning.
- iv. Contractor instrument supervisor & Team Lead must be present on site till complete startup of compressor after commissioning.

B. SCOPE OF WORK FOR INSTALLATION AND COMMISSIONING OF INSTRUMENT & CONTROL FOR RECIPROCATING COMPRESSOR PACKAGE

B.1 TUBING

New 12mm SS tubing for following ESDV/BDV,

- i. Suction ESDV, 40 feet
- ii. Discharge ESDV, 30 feet
- iii. Liquid Drain ESDV, 30 feet
- iv. BDV-2019, 40 feet
- v. Suction DP Transmitter, 10 ft

B.2 CABLE LAYING AND GLANDINGS

1. Proper laying of 100 feet of cable tray/conduit on suitable place.
2. 12 Nos. of single pair cable laying (Approx. 250 feet in the tray/conduit from ESDV/BDV of the unit to the Local Control Panel, along with glanding dressing and terminations on both sides.
 - i. BDV-2019 (DO)
 - ii. BDV ZSC-2019 (DI)
 - iii. BDV ZSO-2019 (DI)
 - iv. Suction SDV-2010 (DO)
 - v. Suction SDV ZSC-2010 (DI)
 - vi. Suction SDV ZSO-2010 (DI)
 - vii. Discharge SDV-2040 (DO)
 - viii. Discharge SDV ZSC-2040 (DI)
 - ix. Discharge SDV ZSO-2040 (DI)
 - x. Liquid Drain ESDV-2033 (DO)
 - xi. Liquid Drain ESDV ZSC-2033 (DI)
 - xii. Liquid Drain ESDV ZSO-2033 (DI)
 - xiii. Suction DP Transmitter
3. Inspection of Position Switches, Solenoid Valves of above valves and replacement with new if required.
4. Making M25 holes or any other size (as per requirements) in the base plate of LCP for cable entry, of above mentioned loops.

B.3 LOOP TESTING AS PER CAUSE & EFFECT

Termination tightening at both end (field and panel side) along with TBs, Loop testing/ security test and ensure health of the relevant instruments of following I/O's as per cause & effect and rectify if any trouble found:

- RESET PB01
- COMPRESSOR ESD PB02
- REMOTE
- LOCAL START
- LOCAL STOP
- COMPRESSOR ESD RELAY
- SUCTION VALVE OPEN ZSO-2010
- SUCTION VALVE OPEN ZSC-2010
- DISCHARGE VALVE OPEN ZSO-2040
- DISCHARGE VALVE CLOSE ZSC-2040
- 1ST STAGE SUC SCRUBBER LEVEL HIGH LSHH-2010
- 2ND STAGE SUC SCRUBBER LEVEL HIGH LSHH-2030
- FUEL SCRUBBER LEVEL HIGH LSHH-2901
- COMP OIL NO FLOW A FSLL-1101A

- COMP OIL NO FLOW B FSLL-1101B
- COMP VIBRATION VSHH-1101
- ENGINE VIBRATION VSHH-1001
- COMP OIL LEVEL LOW LSLL-1101
- JACKET WATER LEVEL LOW LSLL-2701A
- AUX WATER LEVEL LOW LSLL-2701B
- FUSE CHECK 2
- ENGINE ALARM
- KNOCK ALARM
- ENGINE ESD
- COOLER VIBRATION HIGH #1 VSHH-1301
- COOLER VIBRATION HIGH #2 VSHH-1302
- COOLER VIBRATION HIGH #3 VSHH-1303
- FIRE DETECTOR A DH-4100A
- FIRE DETECTOR B DH-4100B
- FUSE CHECK 3
- UNIT RUNNING LIGHT
- SHUTDOWN LIGHT
- ALARM LIGHT
- SUC VALVE SDY-2010
- DISCH VALVE SDY-2040
- ENGINE ESD INPUT(ECU)
- ENGINE RUN INPUT(ECU)
- ENGINE GOVREMSEL INPUT(ECU)
- ENGINE START INPUT(ECU)
- SUCTION PRESS PT-2010 (0-100 PSIG)
- 1ST STG DISCH PRESS PT-2020 (0-2000 PSIG)
- 2ND STG DISCH PRESS PT-2020 (0-2000 PSIG)
- COMP OIL PRESSURE PT-1101 (0-300PSIG)
- ENGINE AVG RPM (ECU)
- ENGINE OIL PRESS (ECU)
- ENGINE ACT LOAD% (ECU)
- ENGINE OIL PRESSURE PT-1001 (300PSIG)
- GAS DETECTOR A DG-4100A (0-100% LEL)
- GAS DETECTOR B DG-4100B (0-100% LEL)
- ENGINE GOVERNER REMOTE SPEED SETPOINT
- RECYCLE VALVE PCV-2040
- Compressor Oil Temp TE-1101
- Compressor Cylinder Disch. Temp TE-2020A
- Compressor Cylinder Disch. Temp TE-2020A
- Compressor Cylinder Disch. Temp TE-2040A
- Compressor Cylinder Disch. Temp TE-2040B
- Pre Catalyst Temp. TE-3002A
- Pre Catalyst Temp. TE-3002B
- Engine Cylinder Temp. 1L TE-1009
- Engine Cylinder Temp. 2L TE-1010

- Engine Cylinder Temp. 3L TE-1011
- Engine Cylinder Temp. 4L TE-1012
- Engine Cylinder Temp. 5L TE-1013
- Engine Cylinder Temp. 6L TE-1014
- Engine Cylinder Temp. 1R TE-1015
- Engine Cylinder Temp. 2R TE-1016
- Engine Cylinder Temp. 3R TE-1017
- Engine Cylinder Temp. 4R TE-1018
- Engine Cylinder Temp. 5R TE-1019
- Engine Cylinder Temp. 6R TE-1020
- Engine Turbo Left Bank Temp, TE-3001A
- Engine Turbo Right Bank Temp, TE-3001B
- Engine Oil Temp, TE-1001
- Engine Main Bearing Temp #1, TE-1002
- Engine Main Bearing Temp #2, TE-1003
- Engine Main Bearing Temp #3, TE-1004
- Engine Main Bearing Temp #4, TE-1005
- Engine Main Bearing Temp #5, TE-1006
- Engine Main Bearing Temp #6, TE-1007
- Engine Main Bearing Temp #7, TE-1008
- Engine Cylinder Suction Temp, TE-2011A
- Engine Cylinder Suction Temp, TE-2011B
- Engine Cylinder Suction Temp, TE-2031A
- Engine Cylinder Suction Temp, TE-2031B

Note: All thermocouples are K type.

9 **COMMERCIAL QUOTE SUBMISSION**

This is single stage TWO ENVELOPE bid submission.

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

Financial bids to be submitted in accordance with the financial bid format. Financial bids will only be opened after completing the technical bids evaluation process and for the technically compliant bidders.

FINANANCIAL BID FORMAT

SR. NO	SCOPE OF WORK	COST ON LUMPSUM BASIS (PKR)
1	Supply of Technical Services for Installation of Auxiliary Equipment / Piping / Components / Valves and Accessories of Compressor Package, Installation of Tubing / Cables of ESDVs, BDVs, and Loop Testing as per detailed SOW attached with Tender Enquiry	
	TOTAL QUOTE VALUE (PKR)	
Note: <ol style="list-style-type: none">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 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 shall be 90 days from the date of submission4. Prices shall not vary within the Quote validity.		

ANNEXURE-1

List Of Documents Attached With Scope Of Work Document.

Sr #	Description	Document #
1.1	GA Drawings of Compressor Package	V38690200-01~15-02
1.2	Compressor Package Weight Details	KT-ECR-1104-63-LL-001 REV.00

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



VALERUS COMPRESSION

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

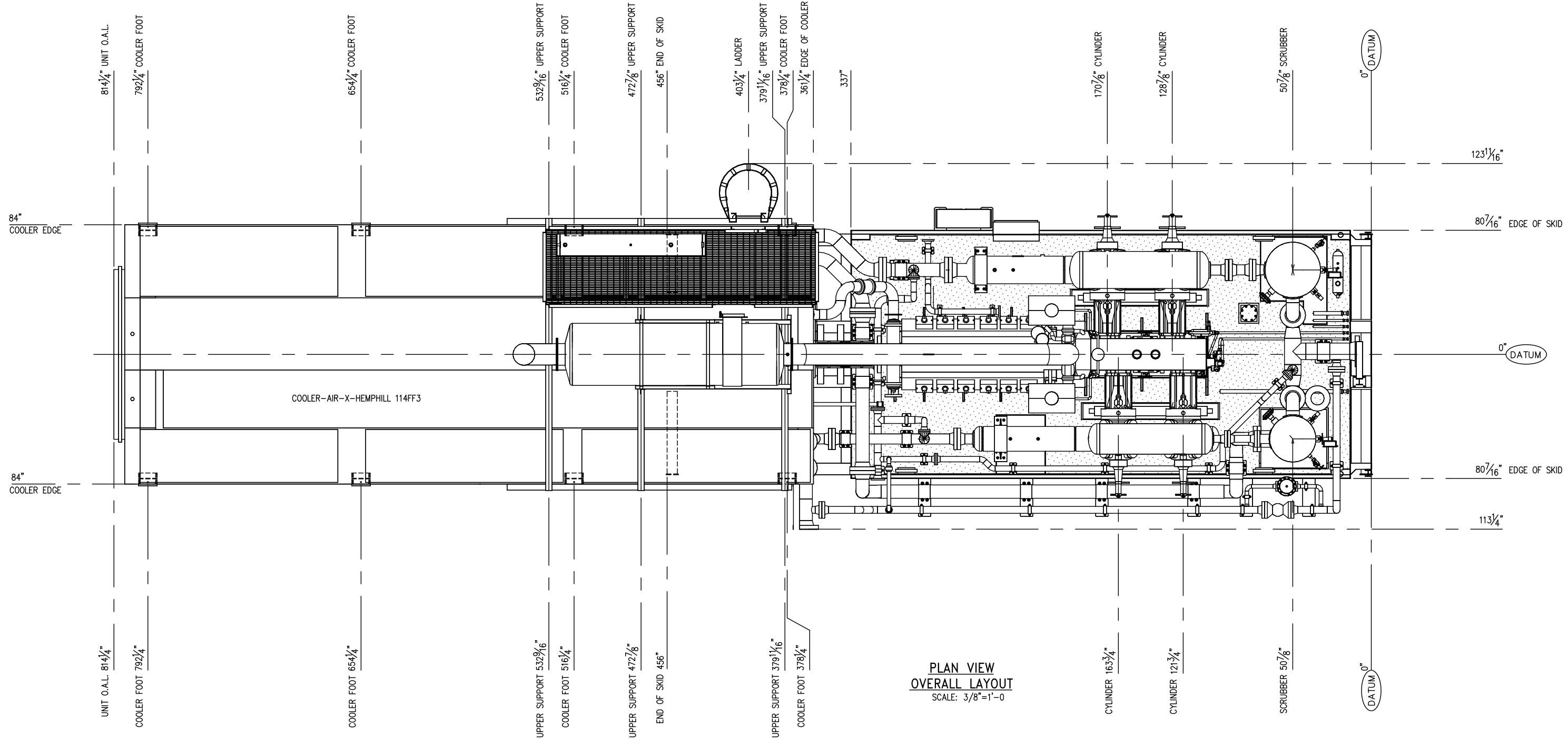
Compressor Package Weight

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

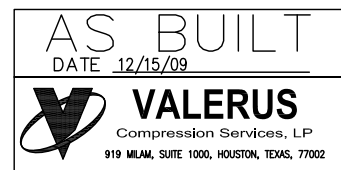
Additional Components For Complete Package		
Ladder	441 Lbs.	
Muffler/Support	2,320 Lbs.	EAC4-67-14/FG102188
Exhaust Pipe	900 Lbs.	
Surgetank	380 Lbs.	FG102013
Catwalk	780 Lbs.	FG501265
Cooler	43,500 Lbs.	49598
Additional Weld Pipe	4,189 Lbs.	
Valves	2,800 Lbs.	
Misc. Piping, Etc.	1,106 Lbs.	2 % of ship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

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



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.



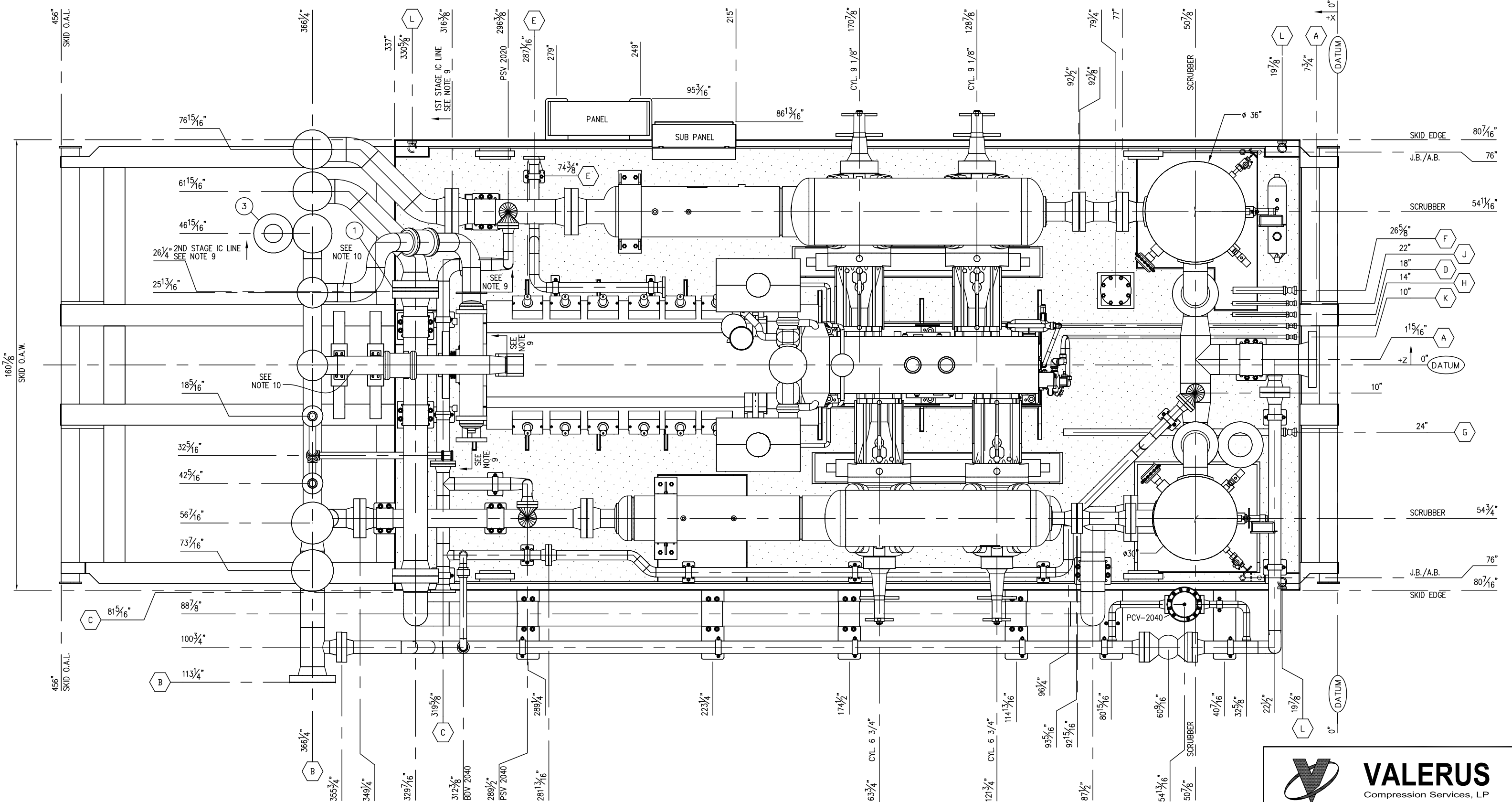
LETTER	QTY	SIZE	RATING	TYPE	SERVICE	ELEVATION
L	FOUR	2"	2000 LB.	FNPT	SKID DRAINS	11 5/8"
K	ONE	1"	2000 LB.	FNPT	LUBE OIL MAKEUP	21 7/16"
J	ONE	1"	2000 LB.	FNPT	INSTRUMENT AIR SUPPLY	21 7/16"
H	ONE	1"	2000 LB.	FNPT	EJW LOW POINT DRAIN / TAW DRAIN	21 7/16"
G	ONE	2"	2000 LB.	FNPT	ENGINE AND COMPRESSOR 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	

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


DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	
CLIENT OGDCL			
TITLE COMPRESSOR PACKAGE GENERAL ARRANGEMENT OVERALL REFERENCE: MD-V3869 (AS-BUILT)			
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DRAWING NUMBER V38690200-01-02		SHEETS 1 OF 15	REV 2

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

AS BUILT
DATE 12/15/09



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

REV.	DESCRIPTION	DATE	BY	CK
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1	REVISED PER ECN #552	11/19/09	RB	ML/RL
0	ISSUED FOR CONSTRUCTION	10/5/09	RB	AM/RL



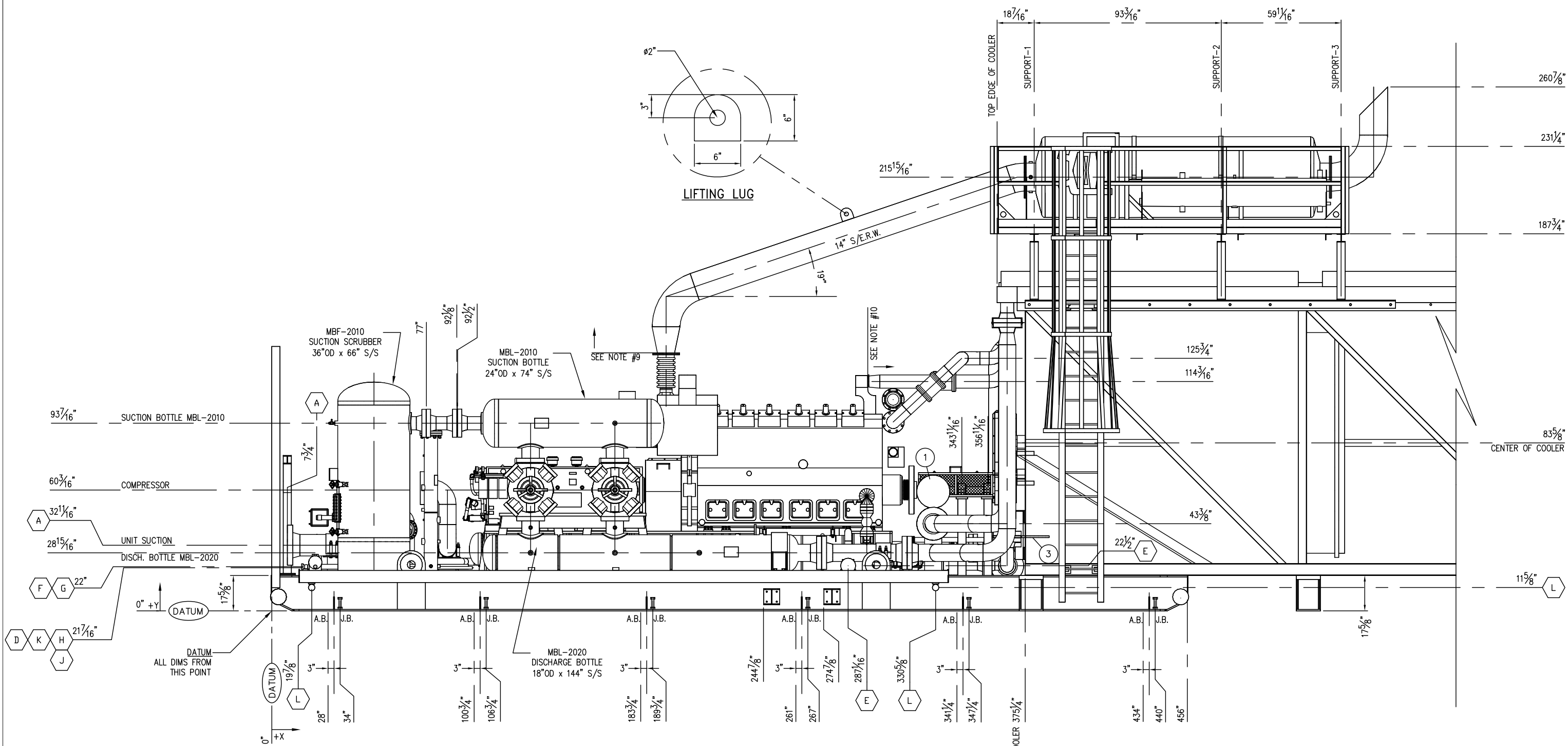
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DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT: **OGDCL**

TITLE: **COMPRESSOR PACKAGE
GENERAL ARRANGEMENT SKID ONLY
REFERENCE: MD-V3869 (AS-BUILT)**

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



NORTH VIEW
SCALE: 1/2"=1'-0"

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6/1/09	CDN	-	

CLIENT: **OGDCL**

TITLE: **COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
NORTH SIDE VIEW**

SCALE: 1/2"=1'-0"	FG# FG102477	JOB#
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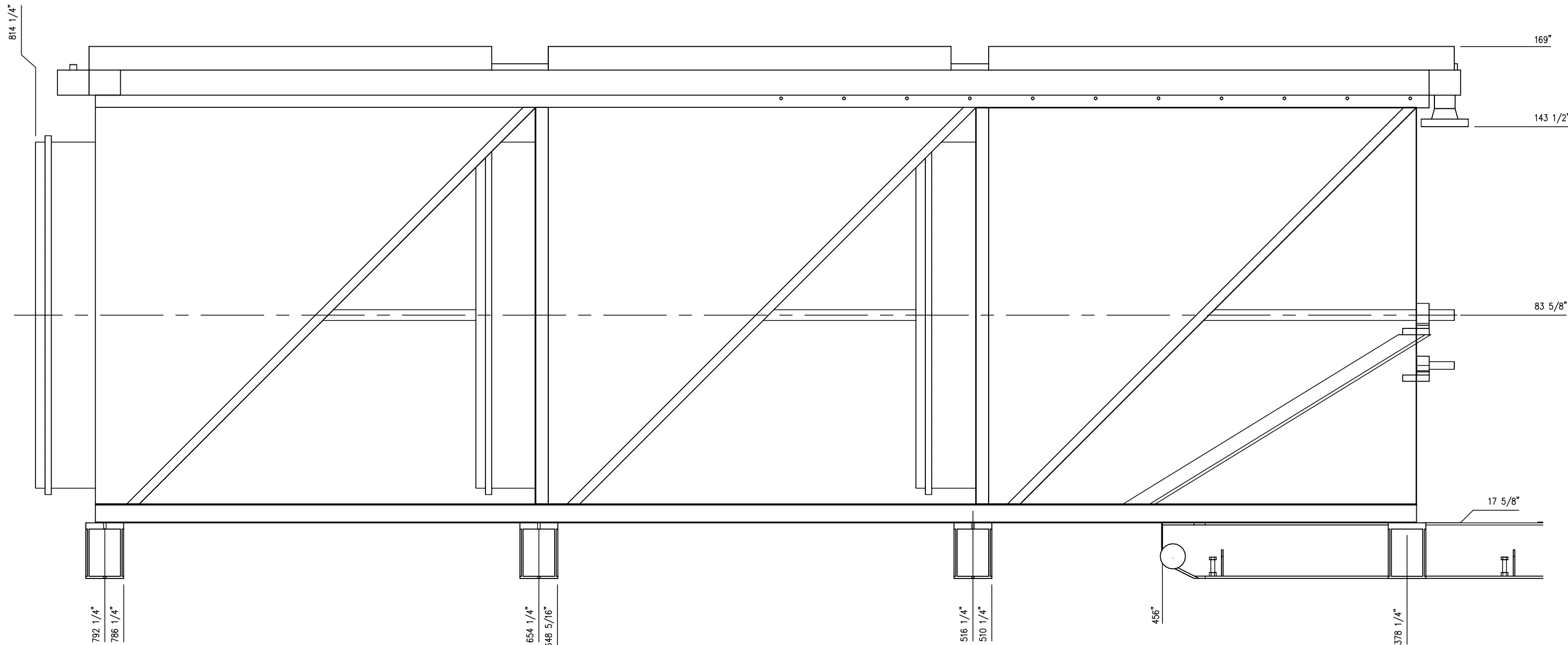
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DATE 12/15/09

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COOLER END VIEW



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6/1/09	CDN	-	

CLIENT
OGDCL

TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
COOLER LEFT SIDE VIEW

SCALE: 3/4" = 1'-0"	FG# FG102477	JOB#
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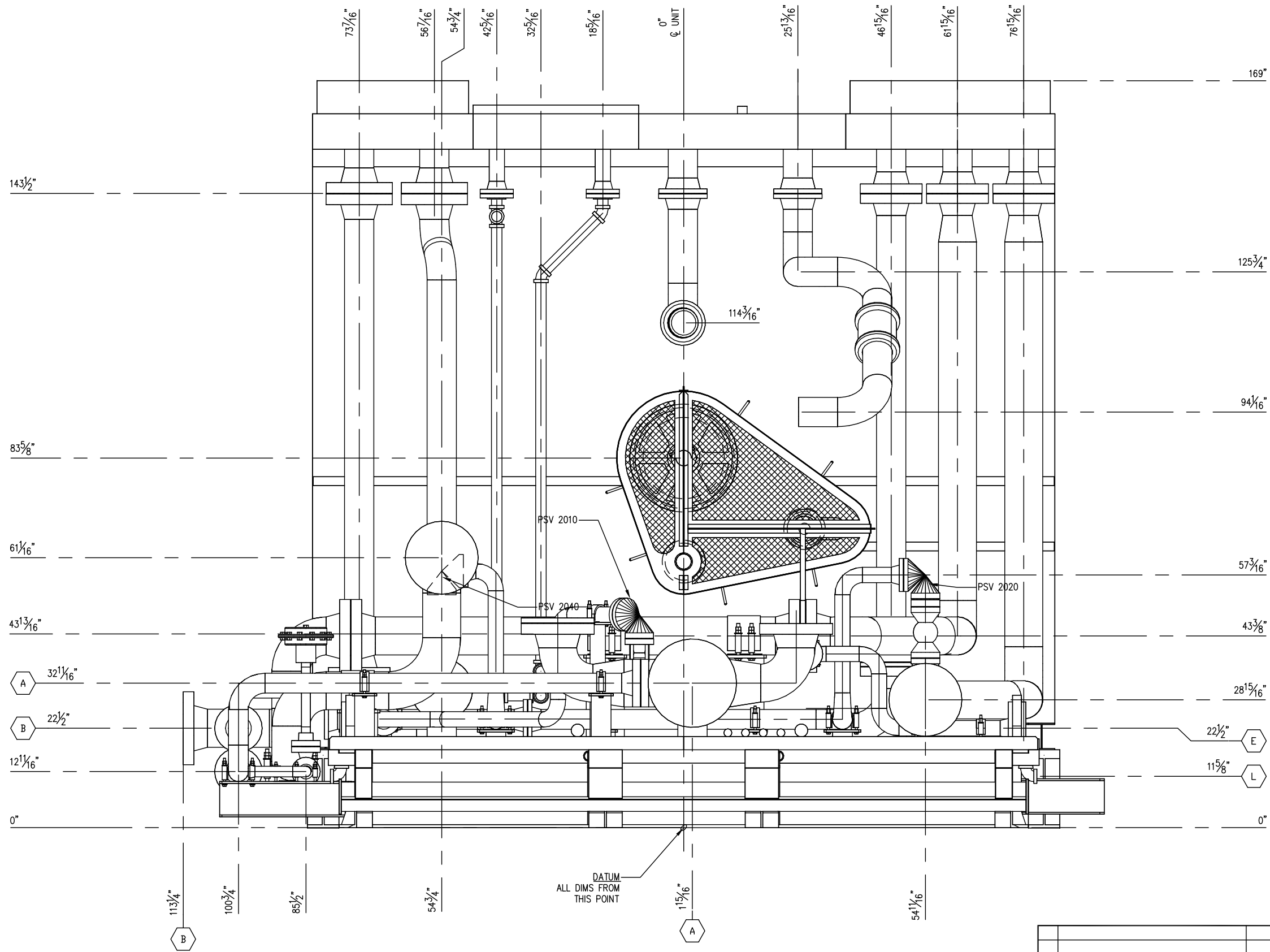
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AS BUILT
DATE 12/15/09


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COOLER END VIEW

AS BUILT
DATE 12/15/09



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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



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DATE 6/1/09	DRAWN CDN	CHECKED -	APPROVED -
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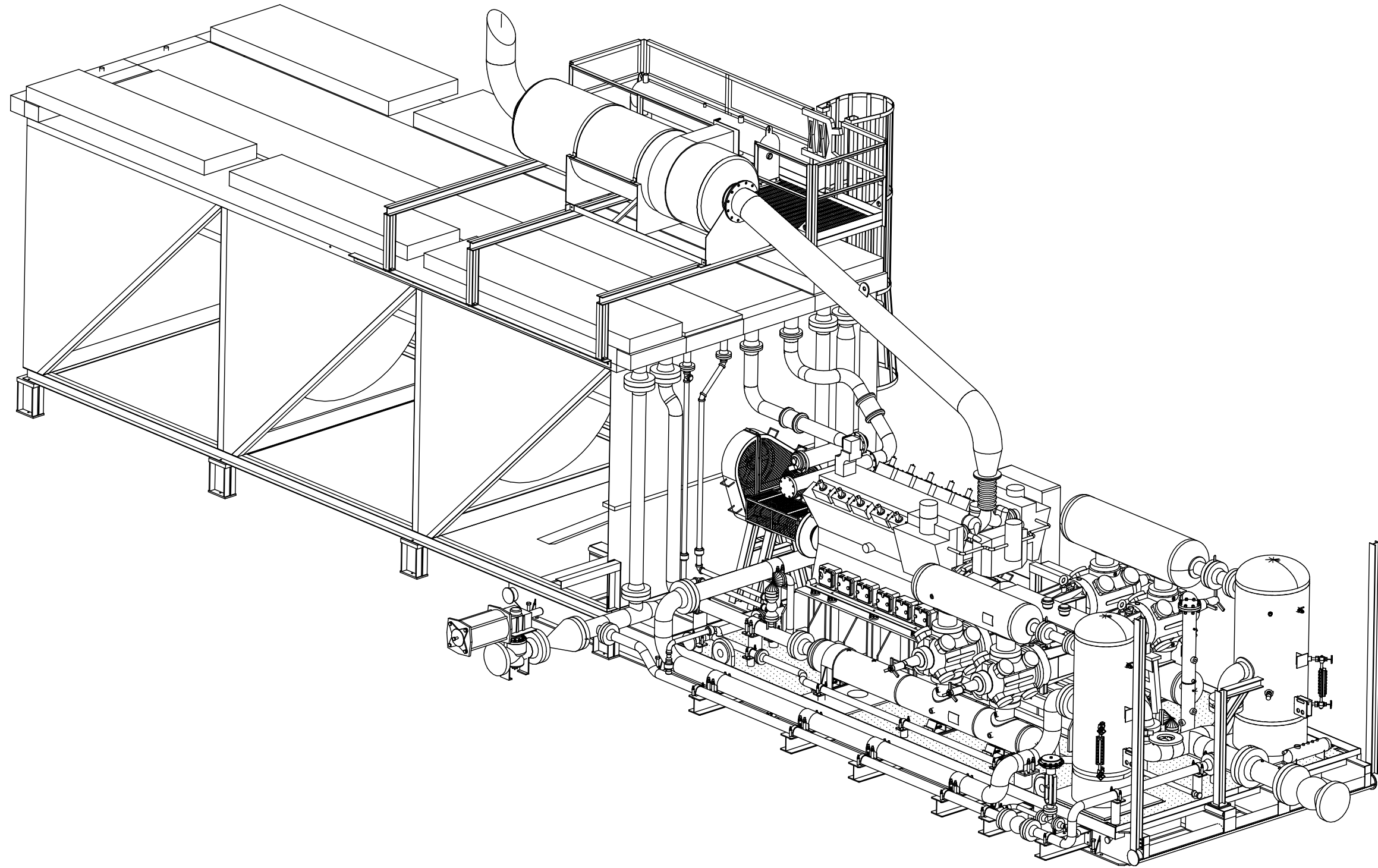
CLIENT
OGDCL

TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
COOLER END VIEW


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

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ISOMETRIC VIEW

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 DATE 12/15/09
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 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

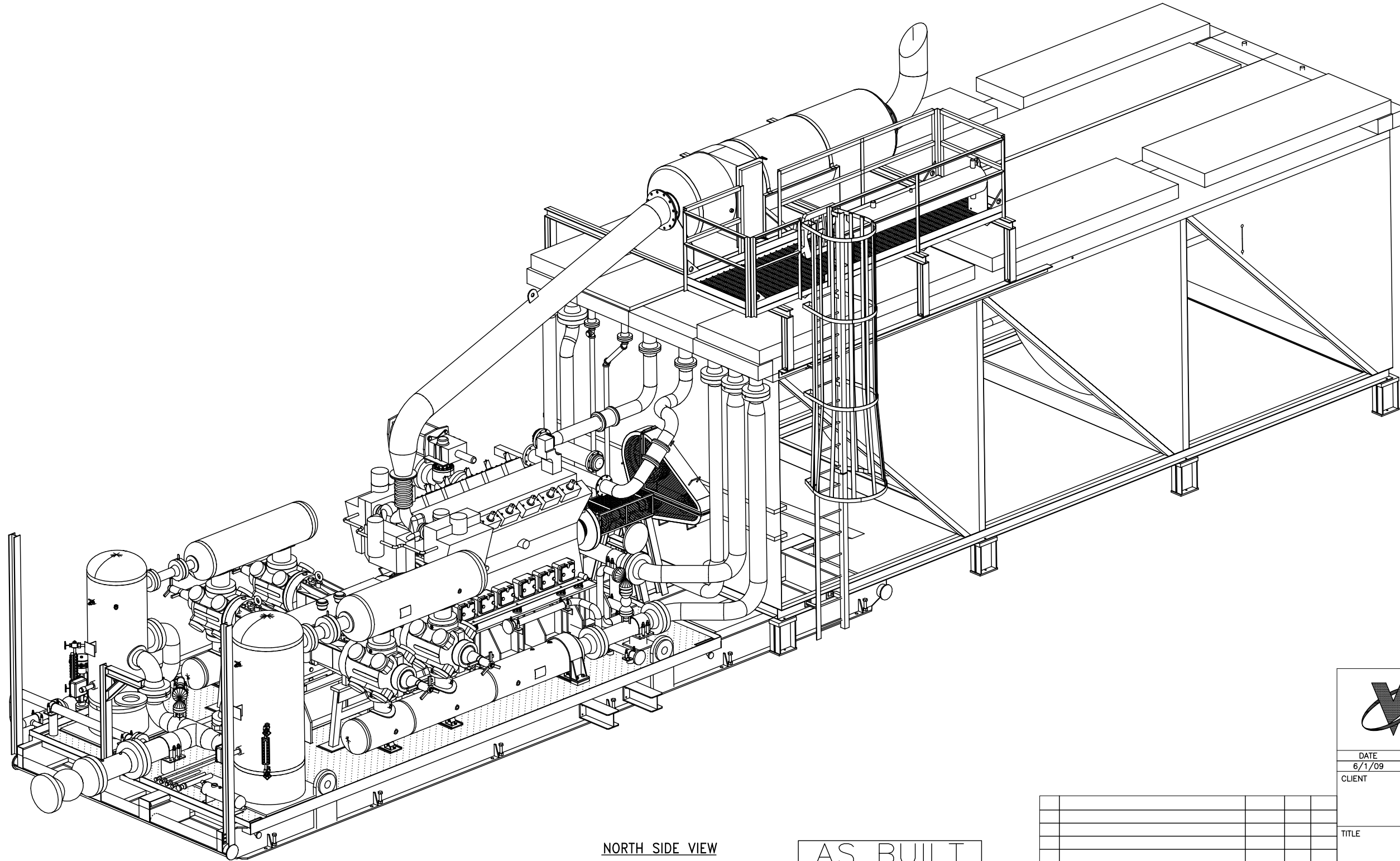


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DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	
CLIENT			
OGDCL			
TITLE			
COMPRESSOR PACKAGE GENERAL ARRANGEMENT ISO VIEW			
SCALE:	FG#	JOB#	
3/4"=1'-0"	FG102477		
DRAWING NUMBER		SHEETS	REV
V38690200-07-02		SHT# 7 OF 15	2

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NORTH SIDE VIEW

AS BUILT
DATE 12/15/09



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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



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919 Milam, Ste. 1000, Houston, TX, 77002

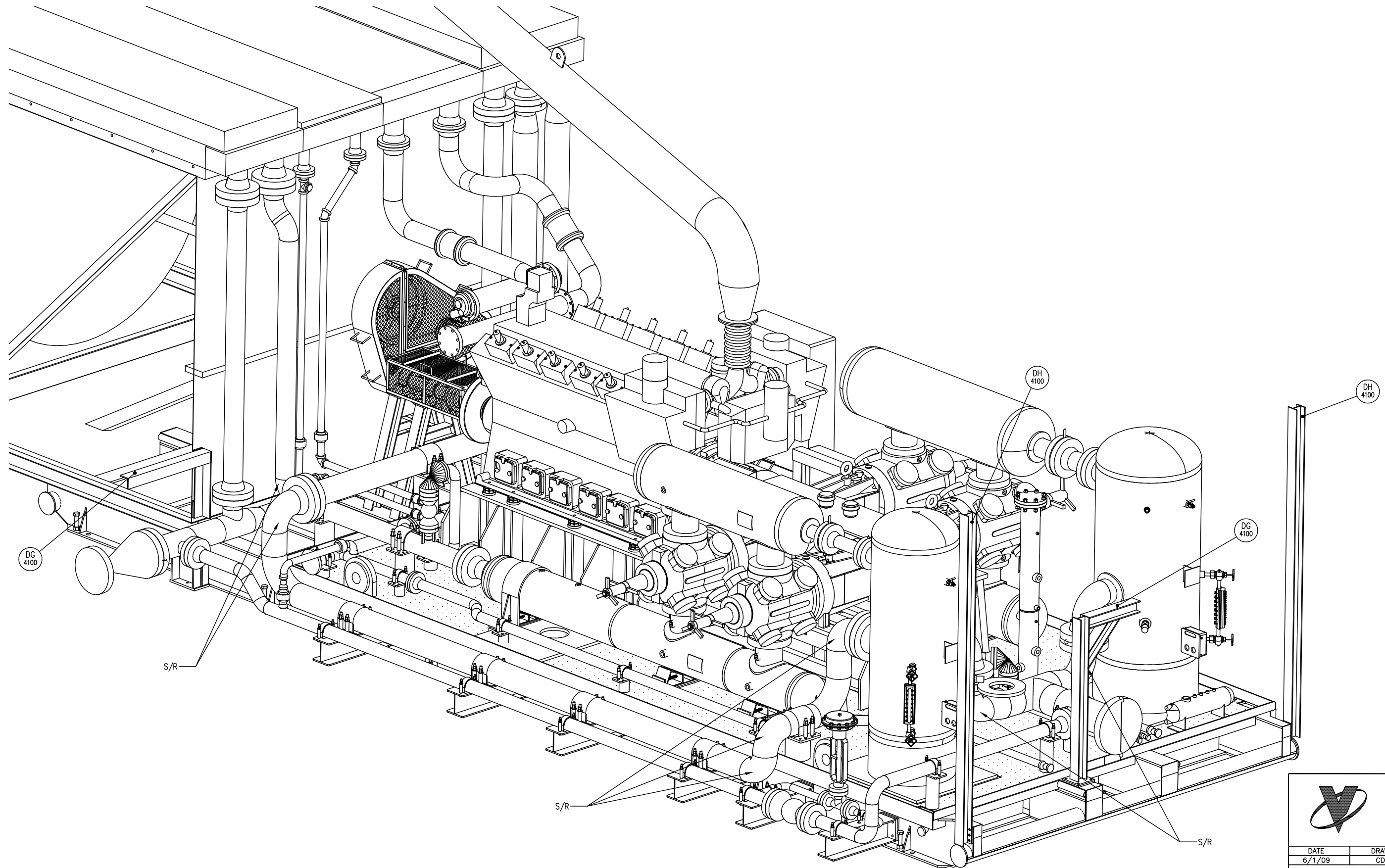
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6/1/09	CDN	-	

CLIENT
OGDCL


TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
ISO VIEW 2

SCALE: 3/4"=1'-0"	FG# FG102477	JOB#
DRAWING NUMBER	SHEETS	REV
V38690200-08-02	SHT# 8 OF 15	2


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ISOMETRIC IVEW

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



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 Compression Services, LP
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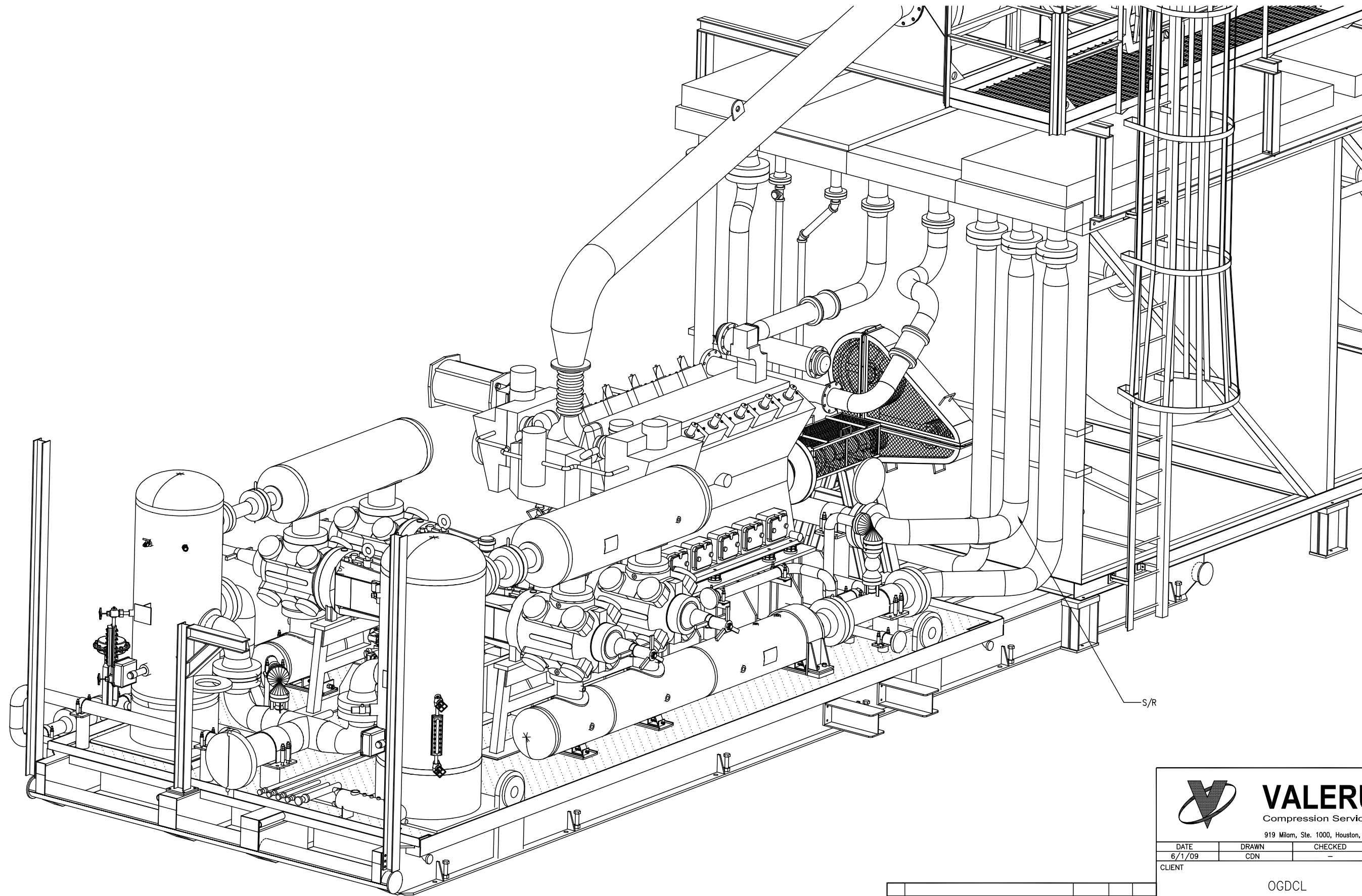
DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT: OGDCL

TITLE: COMPRESSOR PACKAGE
 GENERAL ARRANGEMENT
 ISO VIEW


SCALE: 3/4"=1'-0"	FG# FG102477	JOB#
DRAWING NUMBER	SHEETS	REV
V38690200-09-02	SHT# 9 OF 15	2

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ISOMETRIC IVEW

AS BUILT
DATE 12/15/09



VALERUS
Compression Services, LP
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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



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

DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

CLIENT
OGDCL

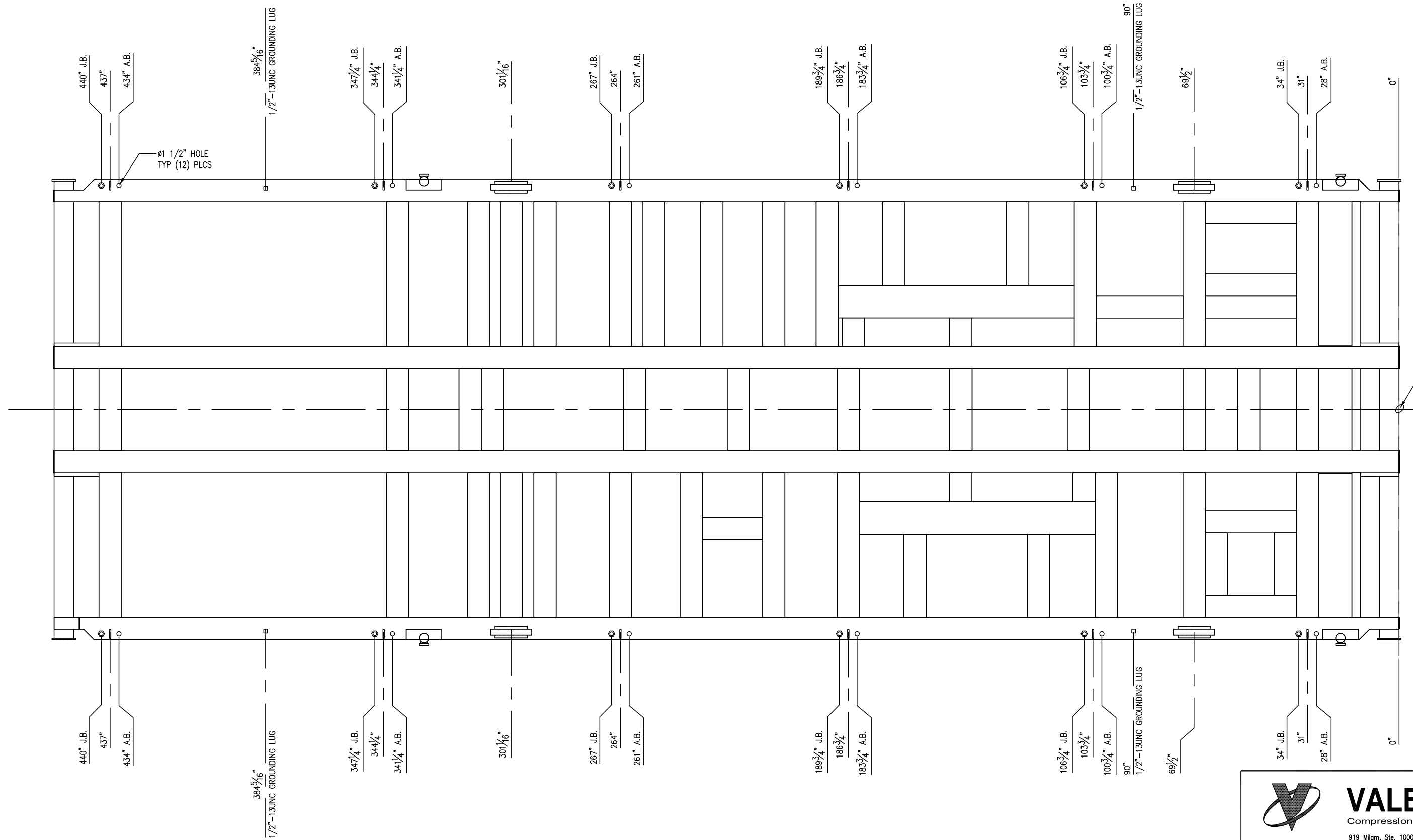
TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
ISO VIEW

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

DRAWING NUMBER	SHEETS	REV
V38690200-10-02	SHT# 10 OF 15	2


S/R

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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

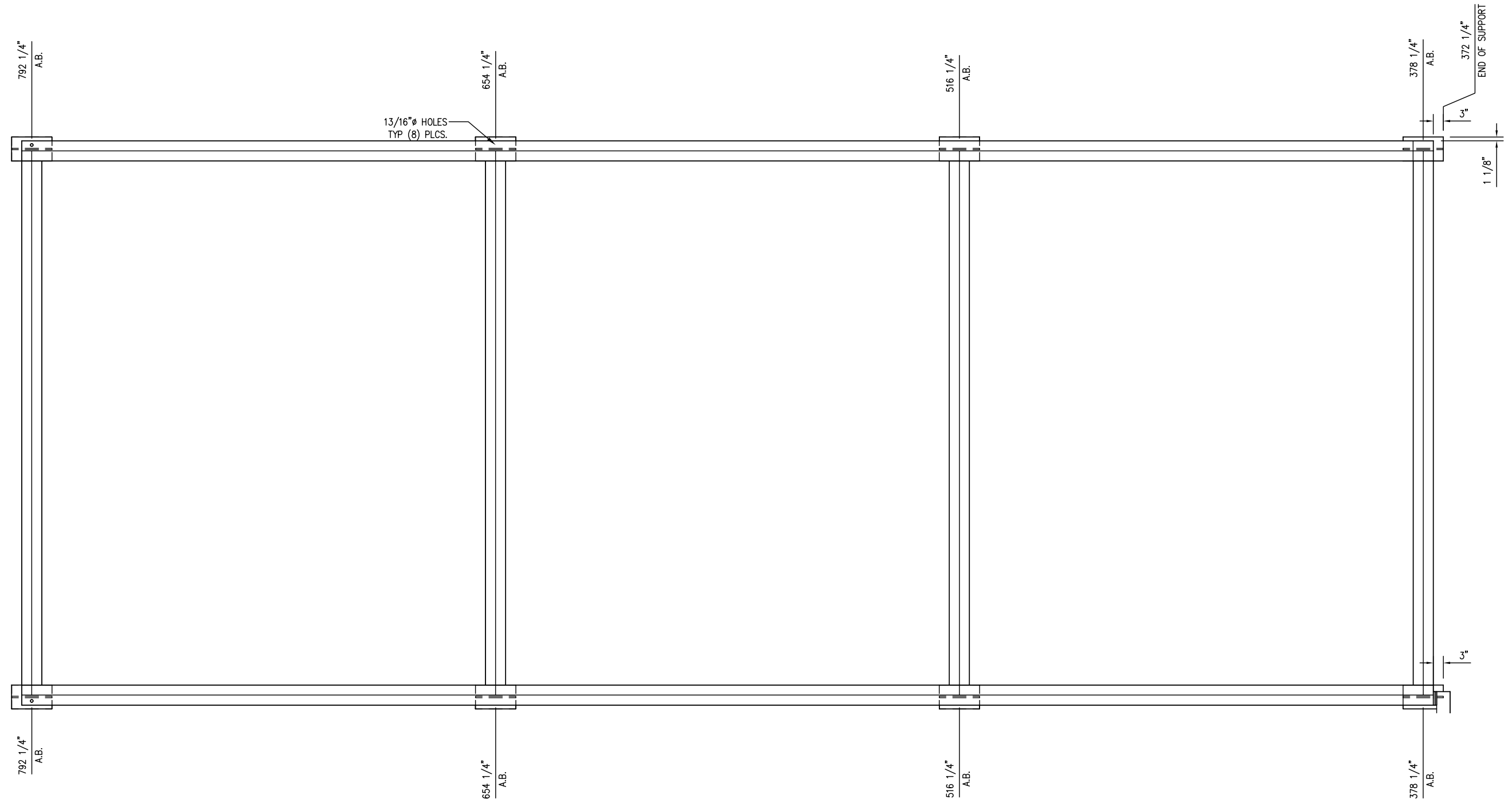


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DATE 6/1/09	DRAWN CDN	CHECKED -	APPROVED
CLIENT OGDCL			
TITLE COMPRESSOR PACKAGE GENERAL ARRANGEMENT ANCHOR BOLT LAYOUT			
SCALE: 3/4" = 1'-0"	FG# FG102477	JOB#	
DRAWING NUMBER V38690200-11-02		SHEETS 11 OF 15	REV 2


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13/16" Ø HOLES
TYP (8) PLCS.


NOTE:
1. ALL DIMS ARE FROM DATUM.

AS BUILT
DATE 12/15/09



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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
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DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

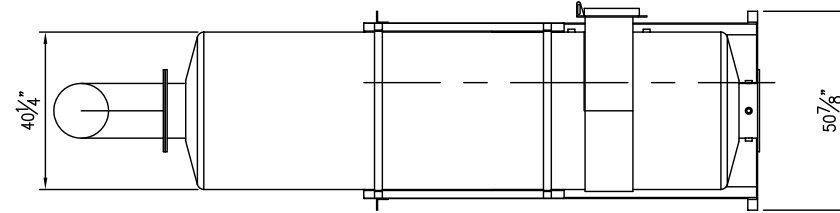
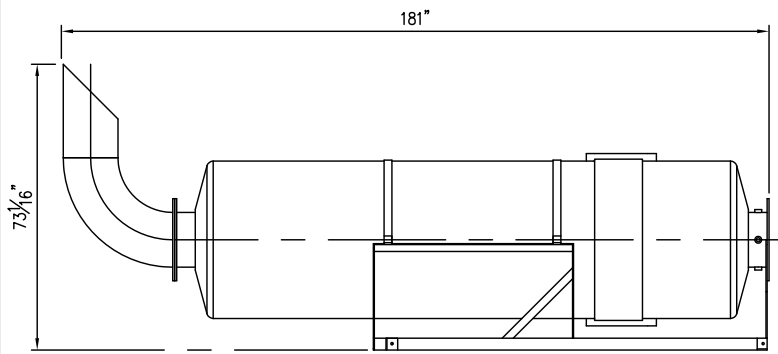
CLIENT
OGDCL

TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
ANCHOR BOLT LAYOUT

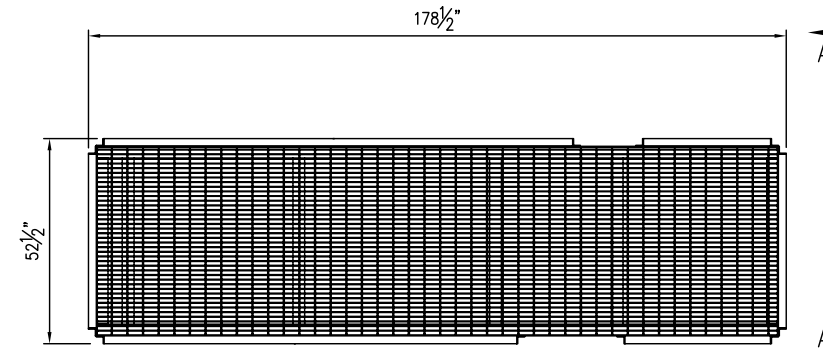
SCALE: 3/4" = 1'-0"	FG# FG102477	JOB#
DRAWING NUMBER	SHEETS	REV
V38690200-12-02	SHT# 12 OF 15	2

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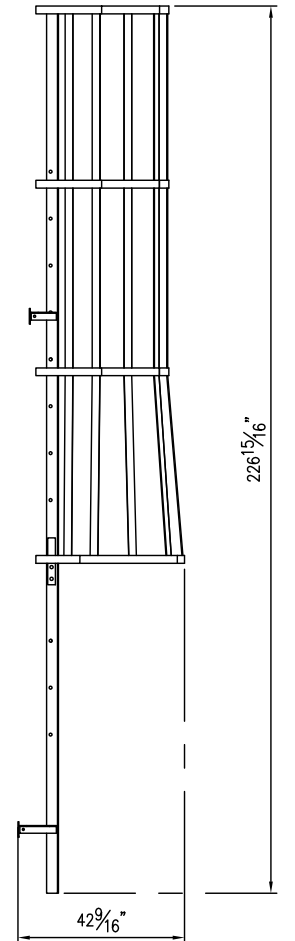
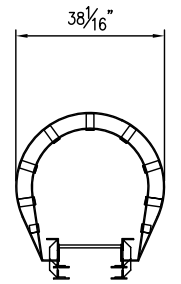
BAY CITY RESPONSIBLE FOR SHIP LOOSE ITEMS (SHEETS 13-15) FOR ALL 14 UNITS



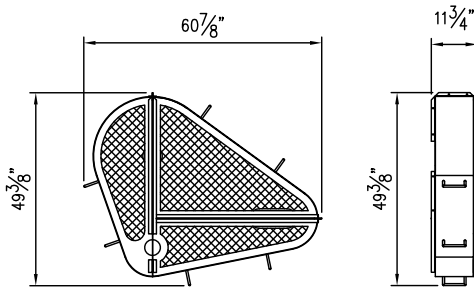
MUFFLER/MUFFLER SUPPORT



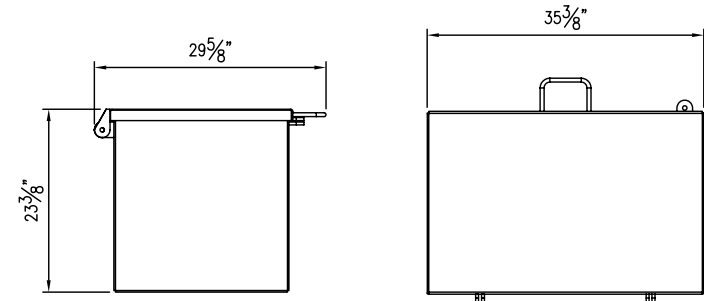
CATWALK



LADDER

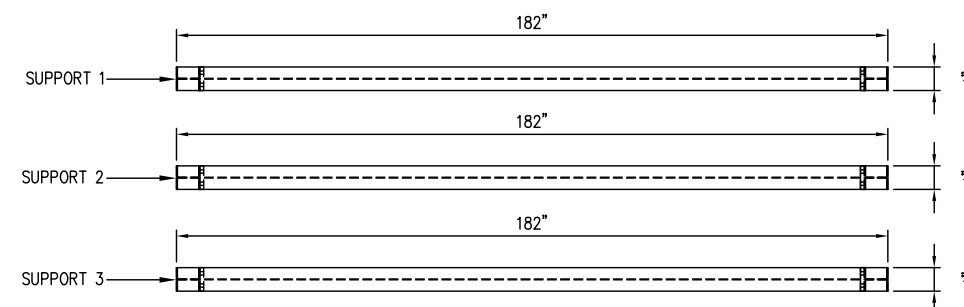


BELT GUARD

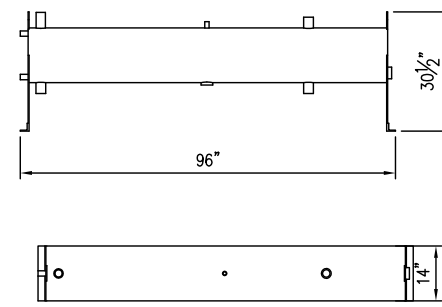


SPARE PARTS BOX

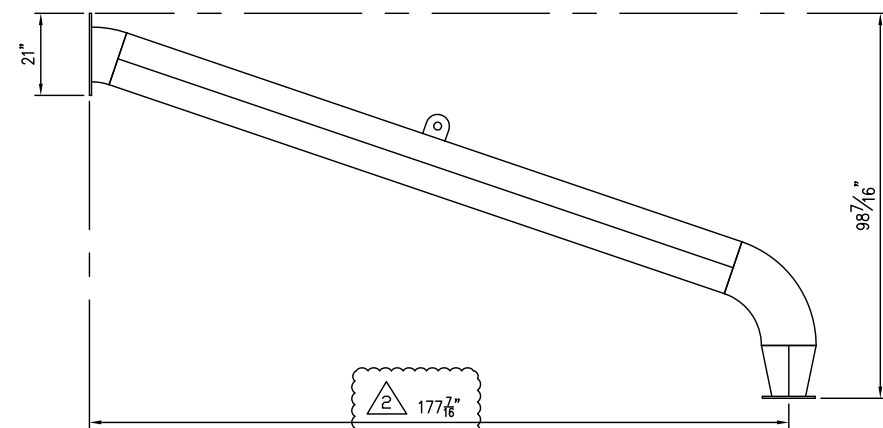
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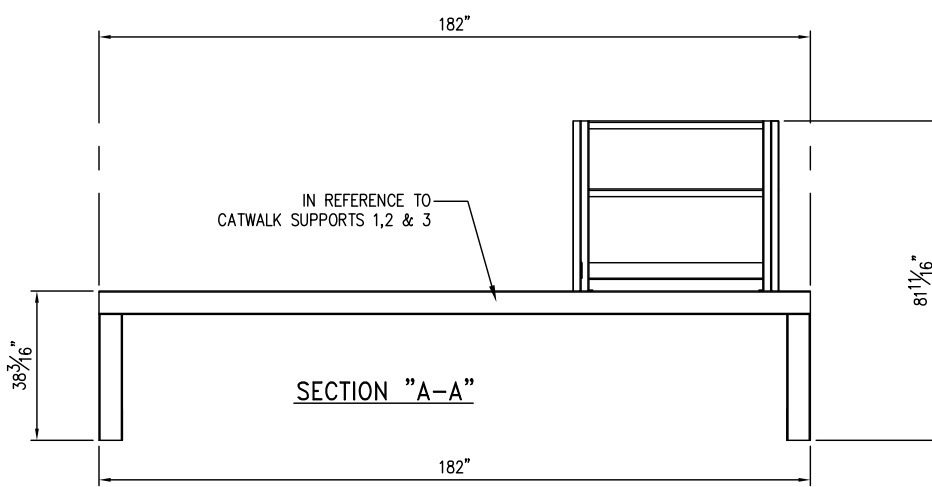
CATWALK SUPPORTS PLAN VIEW



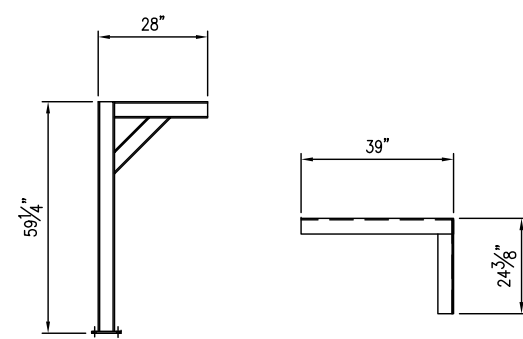
SURGE TANK



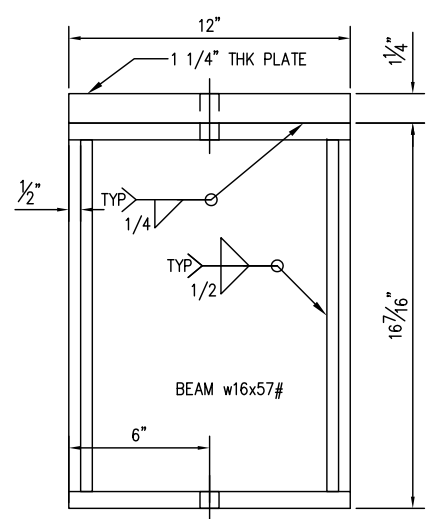
MUFFLER PIPE



SECTION "A-A"

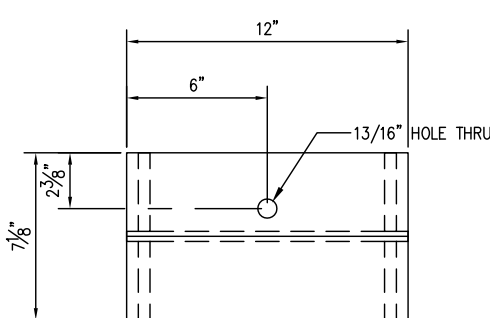


GAS DETECTOR SUPPORTS
ONE (1) EACH REQ'D

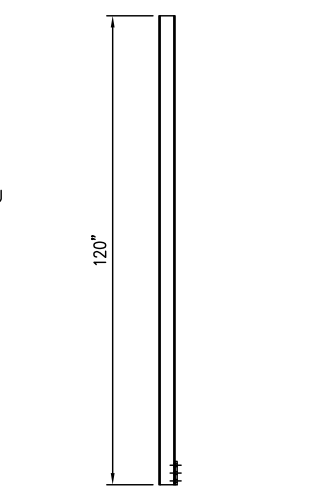


COOLER SUPPORT

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

DATE 6/1/09	DRAWN CDN	CHECKED -	APPROVED
----------------	--------------	--------------	----------

CLIENT
OGDLC

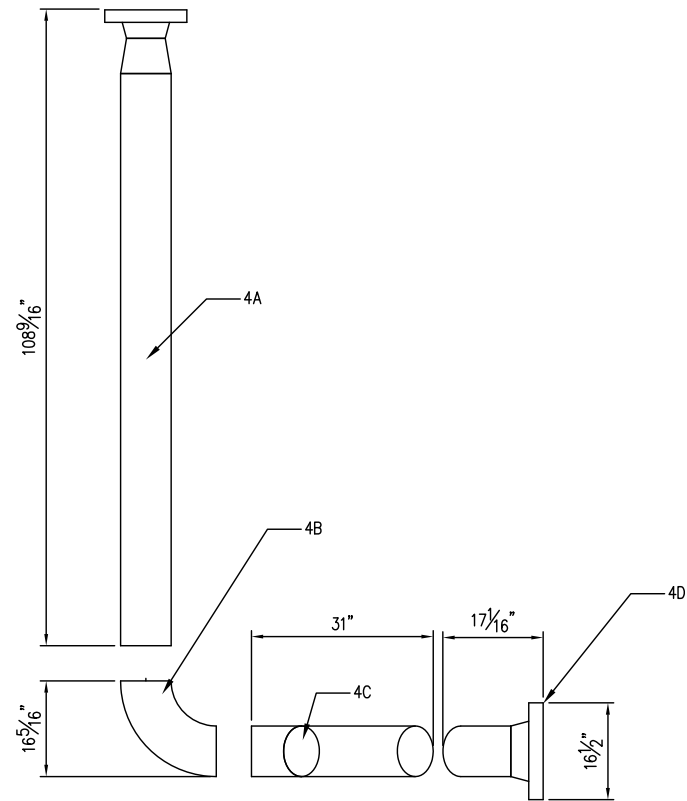
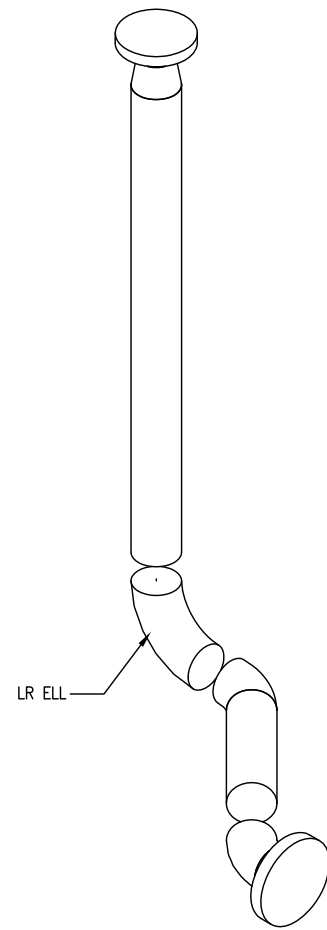
TITLE
COMPRESSOR PACKAGE
GENERAL ARRANGEMENT
SHIP LOOSE SHEET

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

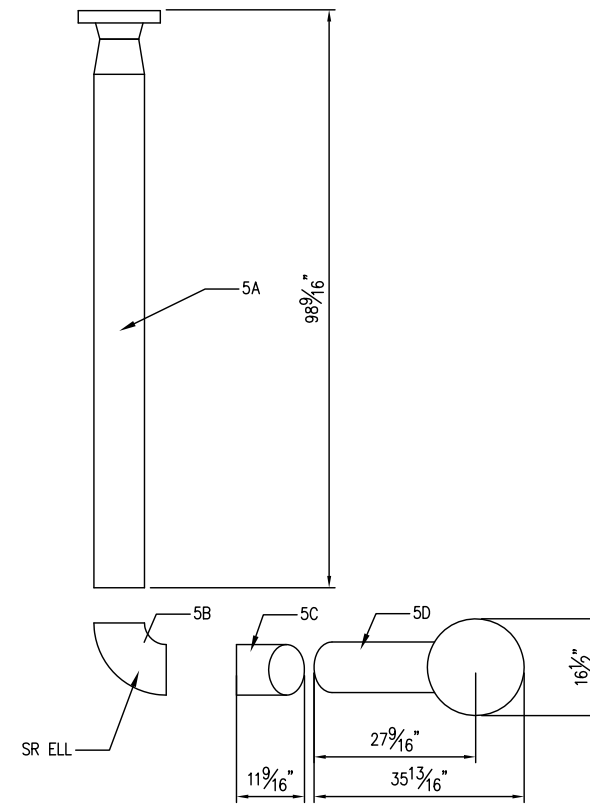
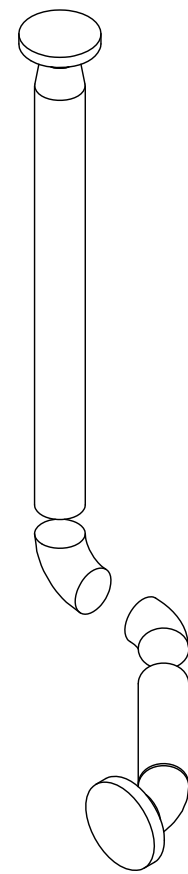
SCALE: 1/2"=1'-0"	FG# FG102477	JOB#
DRAWING NUMBER V38690200-13-02	SHEETS 13 OF 15	REV 2

NOTE:
1. ALL DIMS ARE FROM DATUM.

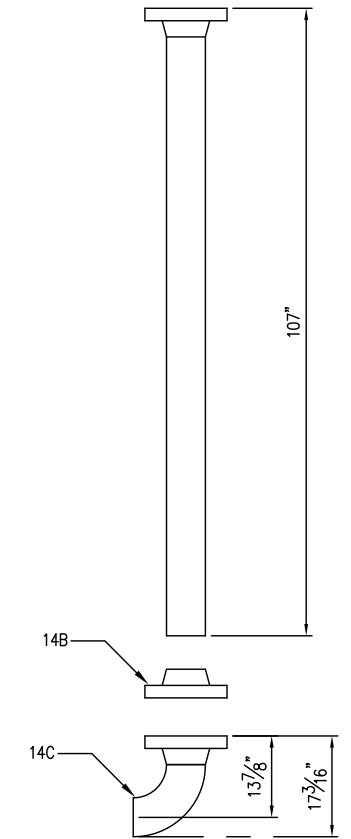
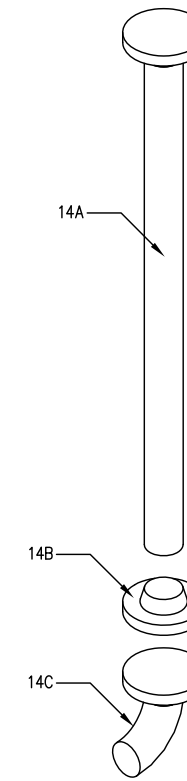
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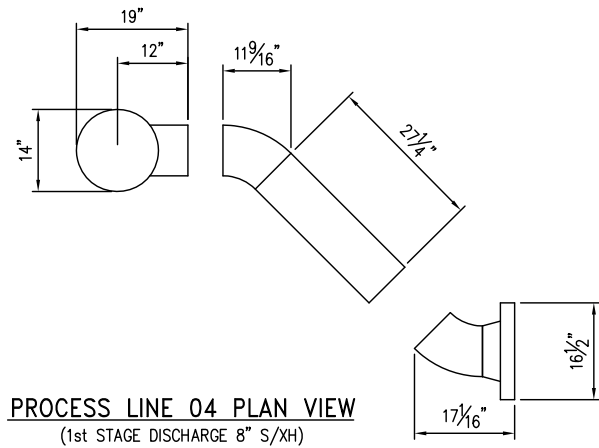
PROCESS LINE 04 ELEVATION VIEW
(1st STAGE DISCHARGE 8" S/XH)



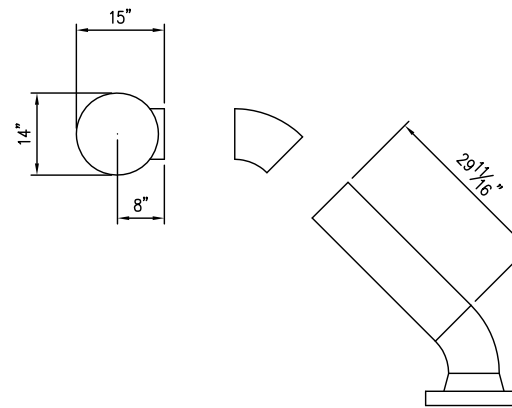
PROCESS LINE 05 ELEVATION VIEW
(2nd STAGE SUCTION 8" S/XH)



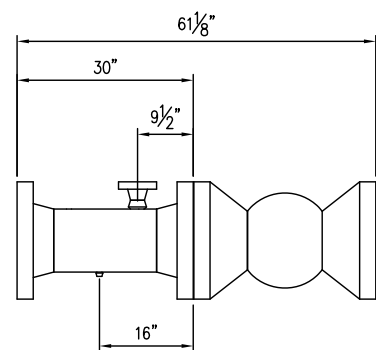
PROCESS LINE 14 PLAN VIEW
(FINAL DISCHARGE 6" S/XH)



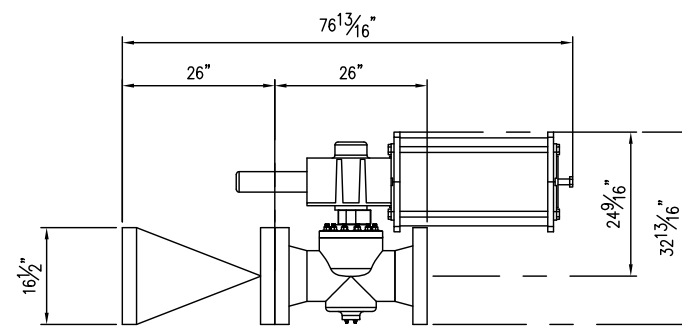
PROCESS LINE 04 PLAN VIEW
(1st STAGE DISCHARGE 8" S/XH)



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

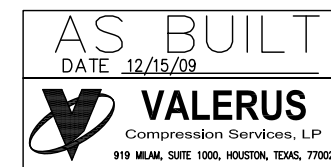


SUCTION SPOOL
(1st STAGE SUCTION SPOOL 10" S/XH)



FINAL DISCHARGE SPOOL
(8" S/XH)

NOTE:
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REV.	DESCRIPTION	DATE	BY	CK
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DATE	DRAWN	CHECKED	APPROVED
6/1/09	CDN	-	

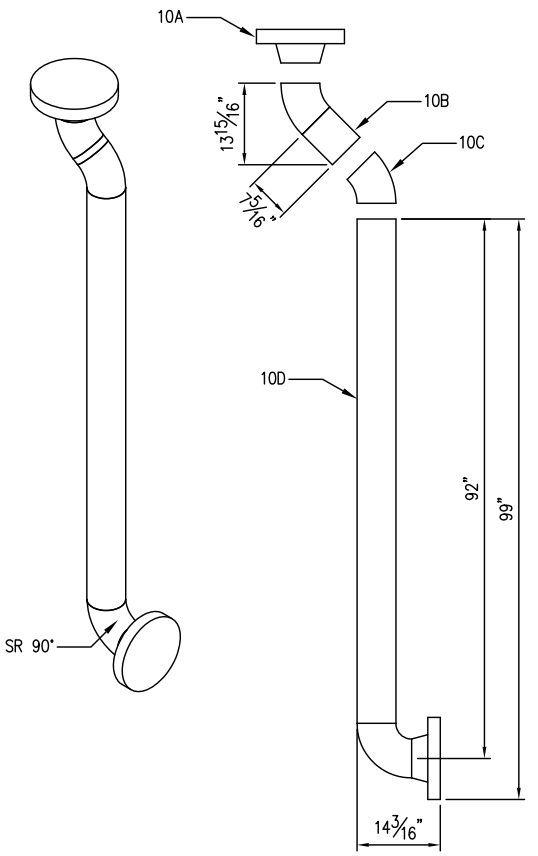
CLIENT: OGDCL

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

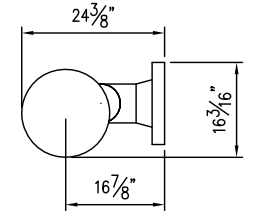
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1/4"=1'-0"	FG102477	

DRAWING NUMBER: V38690200-14-02 SHEETS: 14 OF 15 REV: 2

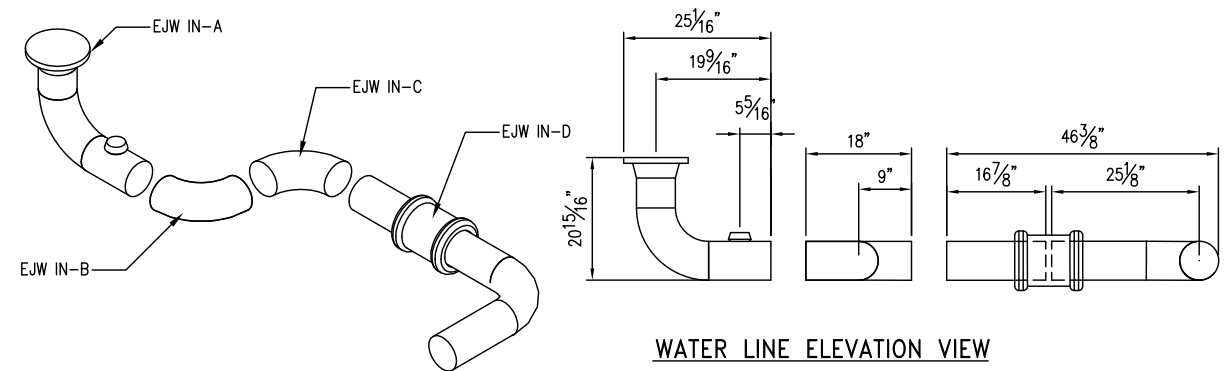
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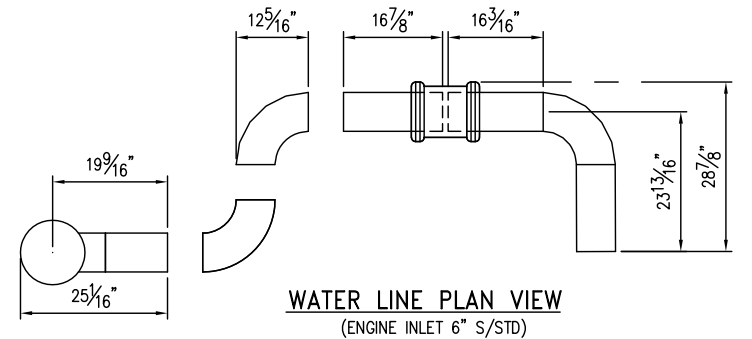
PROCESS LINE 10 ELEVATION VIEW
(2nd STAGE DISCHARGE 6" S/XH)



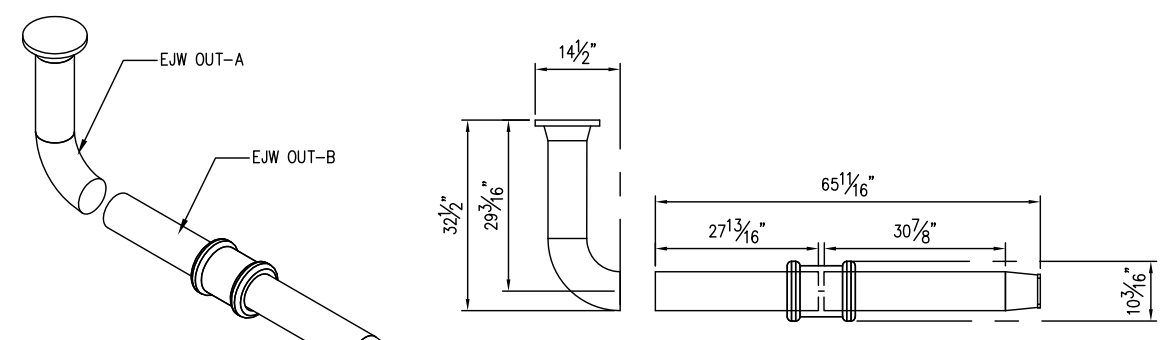
PROCESS LINE 10 PLAN VIEW
(2nd STAGE DISCHARGE 6" S/XH)



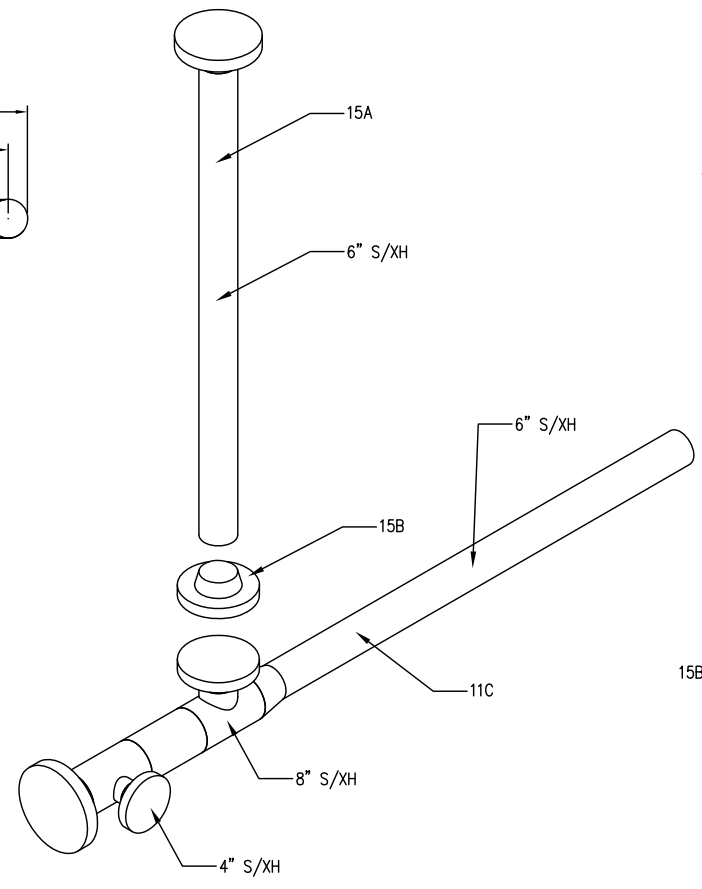
WATER LINE ELEVATION VIEW



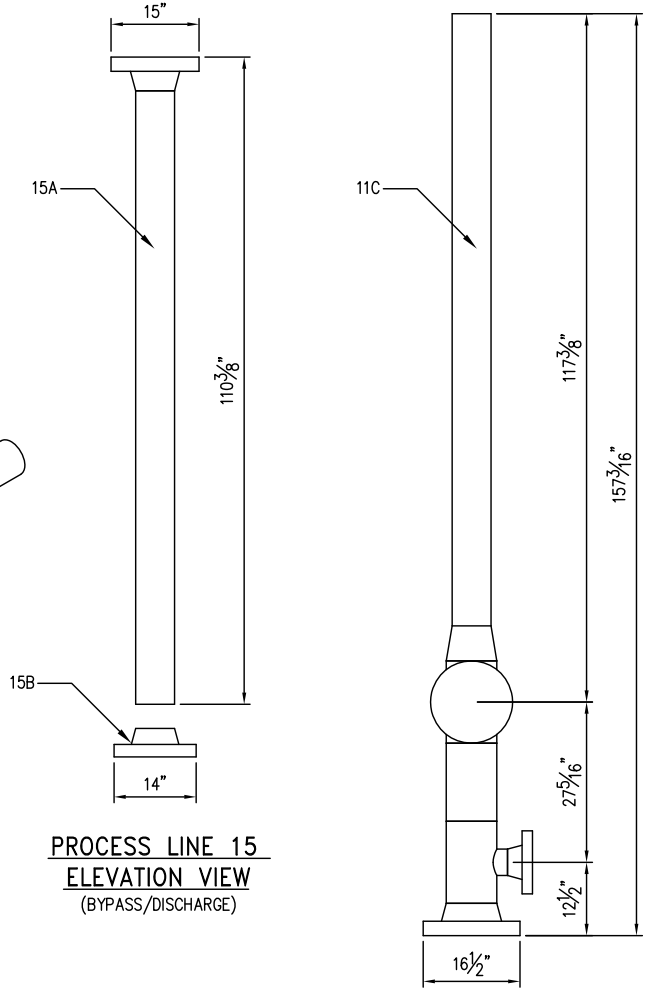
WATER LINE PLAN VIEW
(ENGINE INLET 6" S/STD)



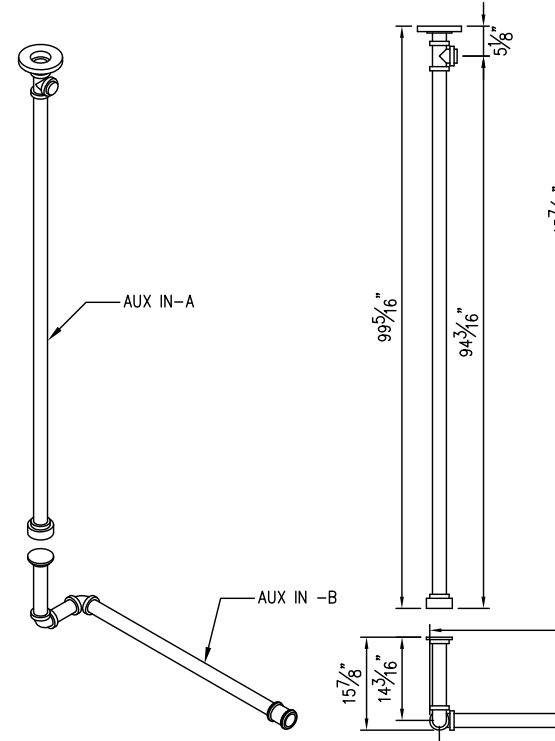
WATER LINE
(ENGINE OUTLET 6" S/STD)



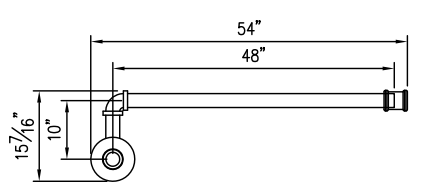
PROCESS LINE 15 ELEVATION VIEW
(BYPASS/DISCHARGE)



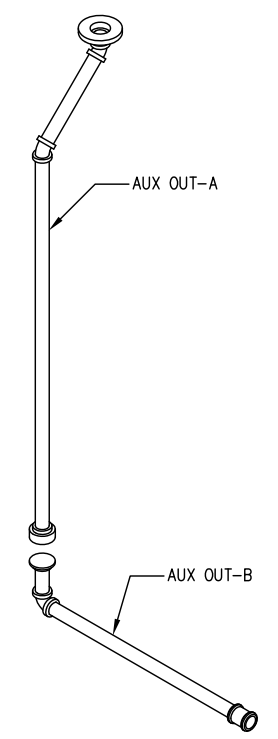
PROCESS LINE 11 PLAN VIEW
(BYPASS/DISCHARGE 6", 8" & 4" S/XH)



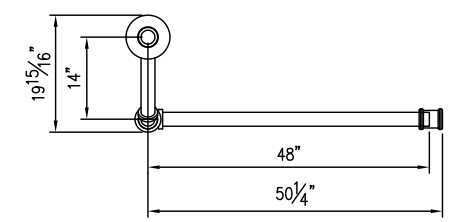
AUXILIARY-IN ELEVATION VIEW
(AUX IN-A & B 2" NPT S/XH)



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

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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