

7770149-002

**CONCRETE BATCHING PLANTS
AIR GENERAL PERMIT RE-REGISTRATION INFORMATION**

Facility Identification Number - If known (seven digit number)

7770149-001-AG: October 2012 re-registration for this permit, which will expire 12/01/2012.

Registration Type

Check one:

INITIAL REGISTRATION - Notification of intent to:

- Construct and operate a proposed new facility.
- Operate an existing permitted facility not currently using an air general permit (e.g., a facility proposing to go from an air operation permit to an air general permit). If the facility currently holds one or more air operation permits, such permit(s) must be surrendered by the owner or operator upon the effective date of this air general permit. (See "Surrender of Existing Air Operation Permit(s)" below.)
- Operates an existing facility not currently permitted or using an air general permit.

RE-REGISTRATION (for facilities currently using an air general permit) - Notification of intent to:

- Continue operating the facility after expiration of the current term of air general permit use.
- Continue operating the facility after a change of ownership.
- Make an equipment change requiring re-registration pursuant to Rule 62-210.310(2)(e), F.A.C.
- Any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

Surrender of Existing Air Operation Permit(s) - For Initial Registrations Only, if Applicable - N/A

All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s):

General Facility Information

Facility Owner/Company Name (Name of corporation, agency, or individual owner who or which owns, leases, operates, controls, or supervises the facility.)
Hayward Baker, Inc.

Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a complete registration must be submitted for each.)
7770149 - Stored at Hayward Baker headquarters, 6850 Benjamin Rd., Tampa, FL 33634 unless mobilized to job sites.

Facility Location (Physical location of the facility, not necessarily the mailing address.)
Street Address: **6850 Benjamin Road**
City: **Tampa** County: **Hillsborough** Zip Code: **33634**

Facility Start-Up Date (Estimated start-up date of proposed **new** facility.)(N/A for existing facility.)
N/A

7770149 - October 2012 (Concrete Batching Plant AG Permit)**Facility Contact**Name and Position Title (Plant manager or person to be contacted regarding day-to-day operations at the facility.)Print Name and Title: **Mr. Dean Elliott, Operations Manager**Facility ID No. **7770149 (Concrete Batching Plant AG Permit)**Facility Contact Telephone NumbersTelephone: **(813) 884-3441**Fax: **(813) 884-3820**Cell phone: **(813) 299-3413**E-mail: **DAElliott@haywardbaker.com**Facility Contact Mailing AddressOrganization/Firm: **Hayward Baker, Inc.**Mailing Address: **6850 Benjamin Road**City: **Tampa**

County: Hillsborough

Zip Code: **33634****Correspondence Contact/Representative (to serve as additional Department contact)**Name and Position TitlePrint Name and Title: **Mr. Lynn Robinson, P.E., Permitting Manager**Correspondence Contact/Representative Telephone NumbersTelephone: **(813) 752-5014**Fax: **(813) 752-2475**Cell phone: **(813) 957-8804**E-mail: **lrobinson@sesfla.com**Correspondence Contact/Representative Mailing AddressOrganization/Firm: **Southern Environmental Sciences, Inc.**Street Address: **1204 North Wheeler Street**City: **Plant City**County: **FL**Zip Code: **33563****Government Facility Code (check only one)**

- Facility not owned or operated by a federal, state, or local government.
- Facility owned or operated by the federal government.
- Facility owned or operated by the state.
- Facility owned or operated by the county.
- Facility owned or operated by the municipality.
- Facility owned or operated by a water management district.

RECEIVED

NOV 01 2012

DIVISION OF
RESOURCE MANAGEMENT

7770149 - October 2012 (Concrete Batching Plant AG Permit)

Type of Facility

Check one:
 Stationary Facility Relocatable Facility

Type(s) of Reasonable Precautions Used to Prevent Unconfined Emissions

Check all precautions to be used for the management of roads, parking areas, stock piles and yards:

Pave Roads **Pave Parking Areas** **Pave Yards**
 Maintain Roads/Parking/Yards **Use Water Application** **Use Dust Suppressant**
 Remove Particulate Matter **Reduce Stock Pile Height** **Install Wind Breaks**

Check all precautions to be used for the management of drop points to trucks:

Spray Bar **Chute** **Enclosure**
 Partial enclosure

Equipment Details Provide information for each silo, weigh hopper (batcher), and other enclosed storage and conveying equipment that are limited to a visible emissions of 5 percent opacity pursuant to Rule 62-296.414(1), F.A.C.

PROCESS EQUIPMENT TYPE (silo, weigh hopper, batcher, etc.)	PROCESS EQUIPMENT IDENTIFICATION*	CONTROL DEVICE (baghouse, vent filter, etc.)	CONTROL DEVICE MANUFACTURER	CONTROL DEVICE MODEL NUMBER
Note: See Attached information (from 2007 registration) for additional system and equipment details.				
Super sack scaled feeder with 2 cu. meter mixer for mixing bentonite (from super sacks) and water into a slurry.	DSS** Supersax 1500 (Super Sack Holder/Feeder) with Gorman Rupp 2 cu.m. mixer.	N/A	N/A	N/A
Mixer to weigh batch cement and blast furnace slag with the bentonite slurry.	SD2000 Colcrete Mixer and weight batcher.	N/A	N/A	N/A
Silo "1" for Cement	DSS** Low Profile Silo: 800 cu.ft. Capacity	Baghouse: 150 sq.ft. total filter area, 375 cfm.	DSS**	airmax 150 S Dust Collector
Silo "2" for Granulated Blast Furnace Slag	DSS** Low Profile Silo: 800 cu.ft. Capacity	Baghouse: 150 sq.ft. total filter area, 375 cfm.	DSS**	airmax 150 S Dust Collector
Agitator Tank for storage of the total slurry.	AGI 6000 Agitator tank.	N/A	N/A	N/A
Trench Cutting Remixing Deep Wall Machine (TRD)	Trench Cutting Remixing Deep Wall Machine (TRD)	N/A	N/A	N/A
One (1) Generator (400kW or 200kW)	Caterpillar 400kW or 200kW generator, trailer mounted.	N/A	N/A	N/A

* If there are multiple pieces of the same types of process equipment (more than one silo, etc), provide an identifier (location, numeric designation, capacity or product) specific to each piece of equipment.

**DSS = Diversified Storage Systems

7770149 - October 2012 (Concrete Batching Plant AG Permit)

Description of Facility

Below, or as an attachment to this form, provide a description of the concrete batching plant operations at the facility in sufficient detail to demonstrate the facility's eligibility for use of this air general permit and to provide a basis for tracking any future equipment or process changes at the facility. Describe type of concrete product(s) manufactured, all air pollutant-emitting processes, and identify any air pollution control measures used. Mobile source equipment information is not needed (eg.: trucks, bulldozers, front-end loaders, etc.)

This October 2012 re-registration is for the renewal of Permit No. 7770149-001-AG (expiration date: 12/01/2012) for Hayward Baker, Inc.

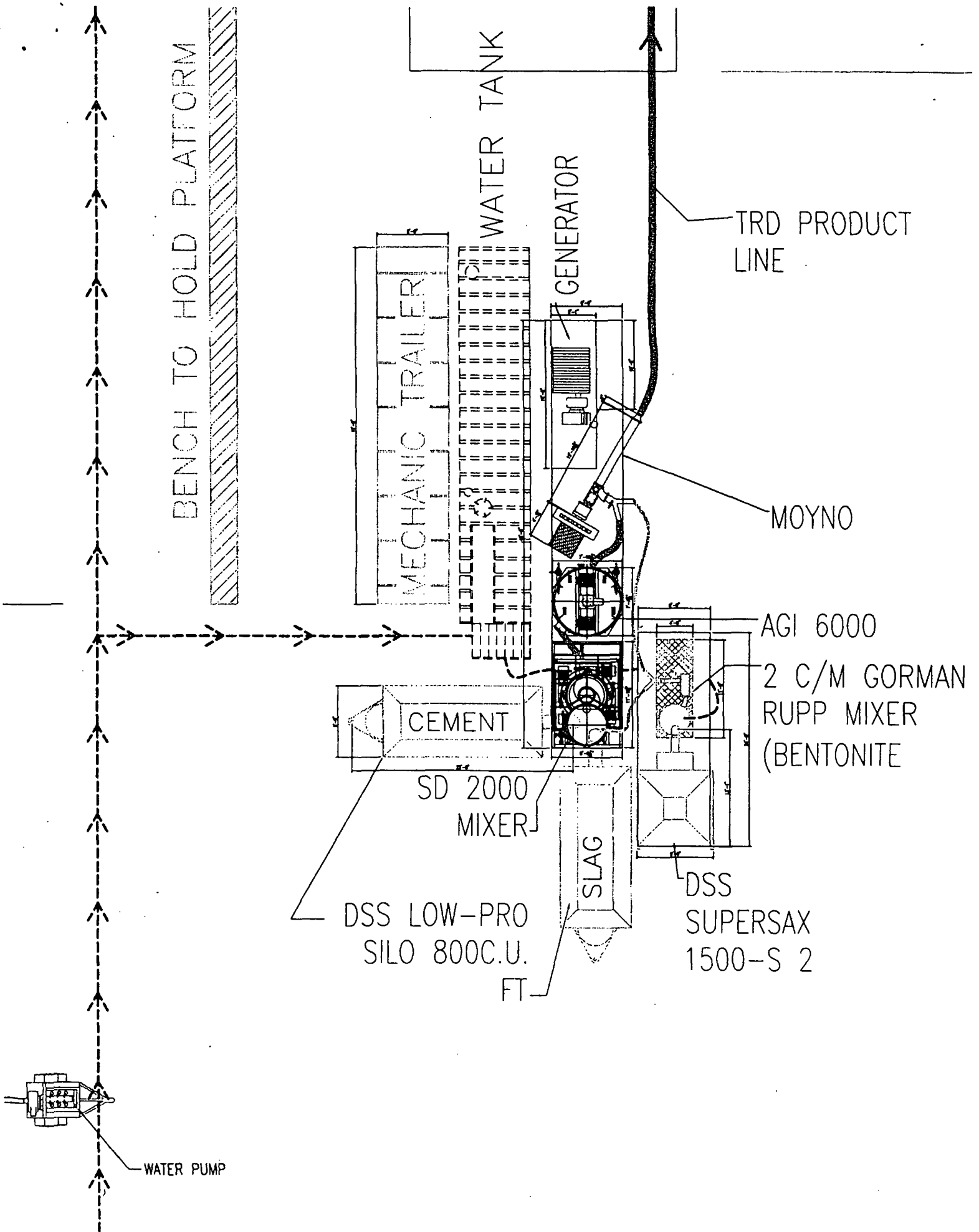
See attached information (41 pages) providing overall batching system setup and component details which was also attached to the 2007 Initial Registration for 7770149-001-AG.

The facility is a relocatable/mobile concrete batching system and associated feeders, super sack feeder/mixer, 2 silos with baghouses, weight batcher mixer, slurry agitator/storage tank, Trench Cutting Remixing Deep Wall Machine (TRD), and trailer-mounted packaged electric power generator. This concrete batching system may also be used in less complex setups with some, but not all, of these components.

This batch plant system setup consists of components to produce a cementitious mixture to mix with existing soil and rock to form a cutoff wall. This setup was used to facilitate installation of a seepage cutoff wall (test program) along the centerline of Reach 1A of the Herbert Hoover Dike Rehabilitation and Repair Project in Martin County, Florida.

Water is placed in a storage tank. Super sacks (bags) of bentonite are loaded into a scaled DSS super sack holder/feeder which has a auger discharge. Water and bentonite are mixed in a 2 cubic meter (cu.m.) mixer and then this slurry is pumped to the SD2000 mixer. The SD2000 mixer weight batches cement and granulated blast furnace slag, from 800 cubic ft. capacity silos, with the bentonite slurry. The slurry is then sent to an AGI 6000 agitator/storage tank, from which it is pumped to the Trench Cutting Remixing Deep Wall Machine (TRD). This batching setup will be powered by either a 400kW or 200kW trailer-mounted electric generator.

BATCHING SETUP OVERALL VIEW



BENCH TO HOLD PLATFORM

WATER TANK

TRD PRODUCT LINE

MECHANIC TRAILER

GENERATOR

MOYNO

AGI 6000

2 C/M GORMAN RUPP MIXER (BENTONITE)

CEMENT

SD 2000 MIXER

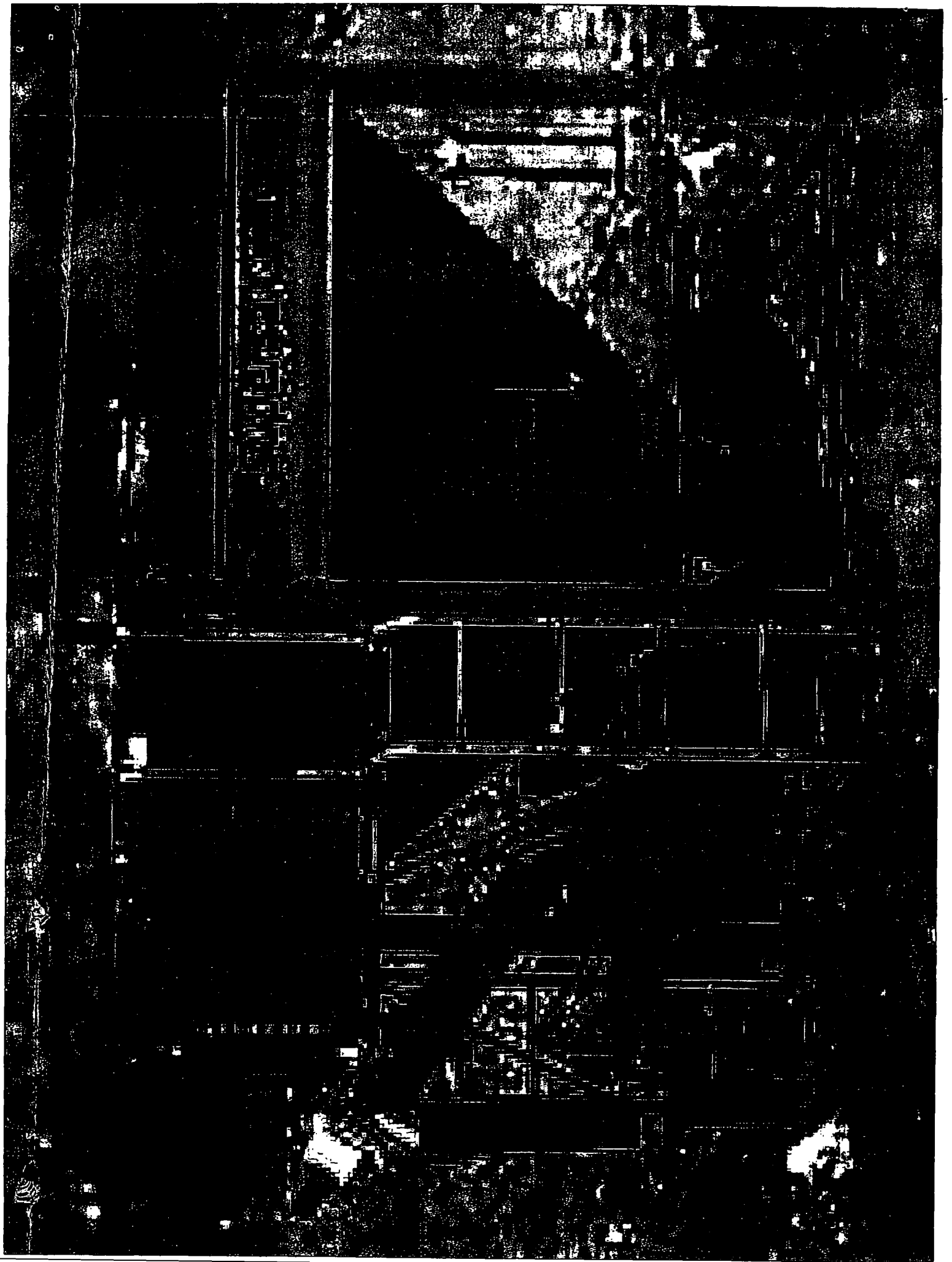
SLAG

DSS SUPERSAX 1500-S 2

DSS LOW-PRO SILO 800C.U. FT

WATER PUMP

DSS
SUPERSAX



DSS

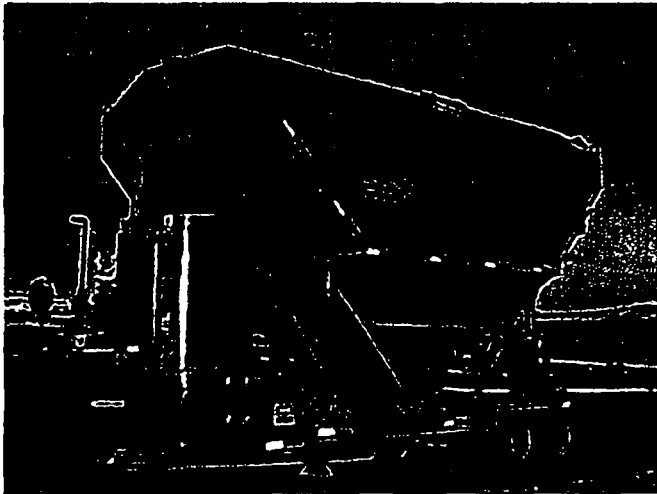
**LOW PROFILE SILO
800 CU. FT. CAPACITY**

(888) 745-6797

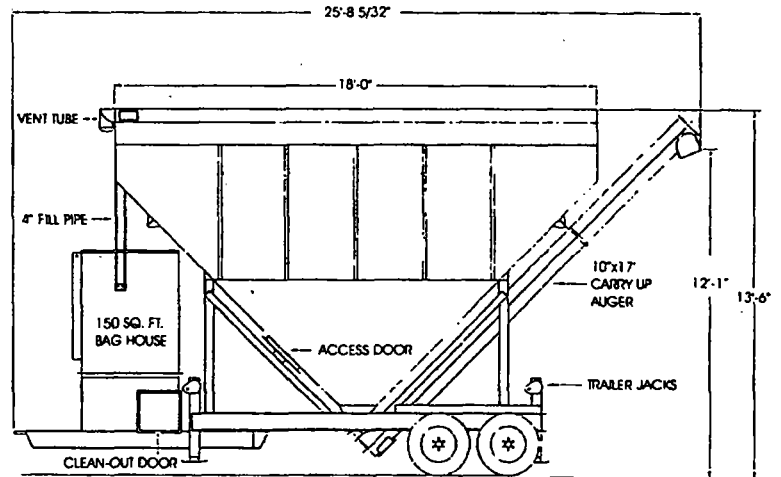


cementsilos.com

LOW-PRO SILO - 800 CU. FT CAPACITY



Can easily be towed - legal height & width!



STANDARD FEATURES

- 30 Ton Capacity (Cement)
- 10" Diameter Screw (12 cf/minute)
- 10hp 3 Phase Motor and Gear Box Drive
- 150 sq. ft. Bag House with Electric Vibrator
- Jamgate Assembly
- Upper Level Bindicator with Light and Horn Alarm
- Starter Panel
- Cone Actuators
- Non-stick Cone Coating
- Heavy Duty Axle Trailer with Light Package

OPTIONS

- 7" Diameter Screw
- 5hp Motor and Gear Box Drive
- 16hp Gas Motor

SETUP/SITE REQUIREMENTS

Compacted, level soil or better

APPLICATIONS

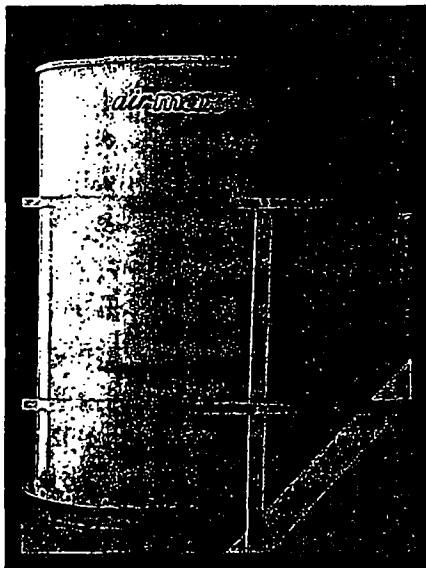
- Cement
- Fly Ash
- Lime
- CKD
- Sand
- Bentonite/Clay
- Calcium Carbonate
- Chemical Powder Products
- Agricultural Powder Products
- Food Grade Dry Bulk Products



DIVERSIFIED STORAGE SYSTEMS

(888) SILO-SYS (888) 745-6797

airmax 150 S Dust Collector



Collector Specifications

Total Filtration Area	150 Sq. Ft.
Air to Cloth Ratio (ACFM/Sq.)	2.5
Pressure Drop (in. H ₂ O)	6"
Air Capacity	375 C.F.M.
Outlet Area (Sq.)	.58
Cleaning Method	Shaker Plate
Vibrator (Air or Electric)	Rotary Style
Vibrator Air Consumption (High Press.)	8 CFM (Max)
Vibrator Power	120 V/ 1 ph
Duty Cycle	1.5 hours
* Normal Operating Pressure	8 - 15 PSI
* Max Operating Pressure	20 PSI
Over pressure relief settings	18 PSI

Filter Bag Specifications

Filter Bag Count	18 hung style
Replacement Filter Bag Model #	DC150S
Dimensions	8" OD X 48" Height
Filter Area (Per)	8.33 Sq. '
Material Weight	9 oz. / Sq. Yd.
Fiber	100% Polyester
Construction	Spun/Spun
Permeability	25 c.f.m.
Mullen Burst Dry	500 PSI
Temperature Limit	275 Deg. F.
Efficiency (PM-10)	99.99%

Vibrator Specifications

Air Vibrator	Model V-190
VPM @ 60 PSI	4200
CFM @ 60 PSI	7.5 CFM
Noise @ 60 PSI	70 db
Control	Manual
Electric Vibrator	Model 2P-75
Voltage/amps	115v/0.5 amp
VPM	3600
Noise	60 db.
Control	Auto/Manual

Collector Performance (PM-Reg.)**

0.0 - 0.5 Micron	99.98% Passing
0.5- 1.0 Micron	0.02 % Passing
1.0 - 20.0 Micron	0.0% Passing

** Typical Portland Cement is 44 Micron

Mounting Options

Bin Vent Mount (Silo Top)
 Base Mount (Optional Base Needed)
 Trailer Mount (Portable Applications)

* This style unit does not use magnahelic gauge. Dust Collector performance is measured by back pressure at load line.

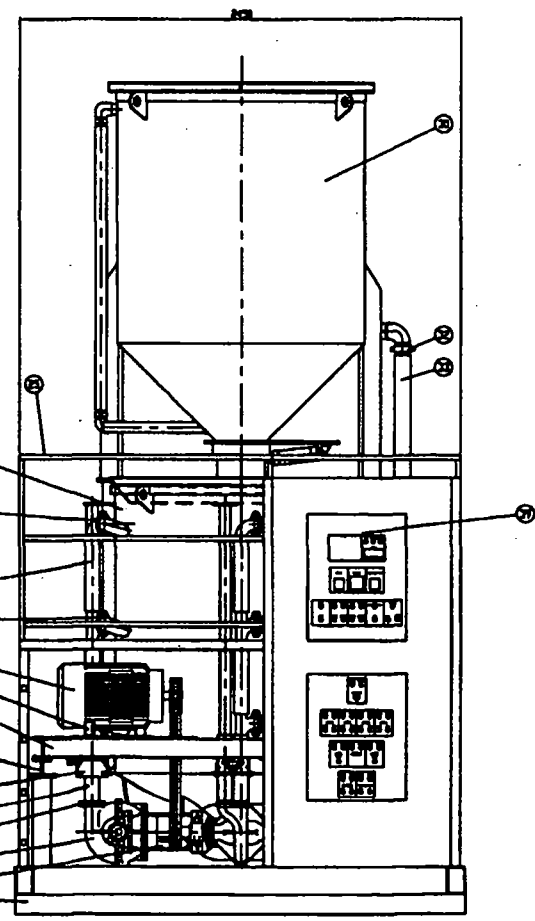
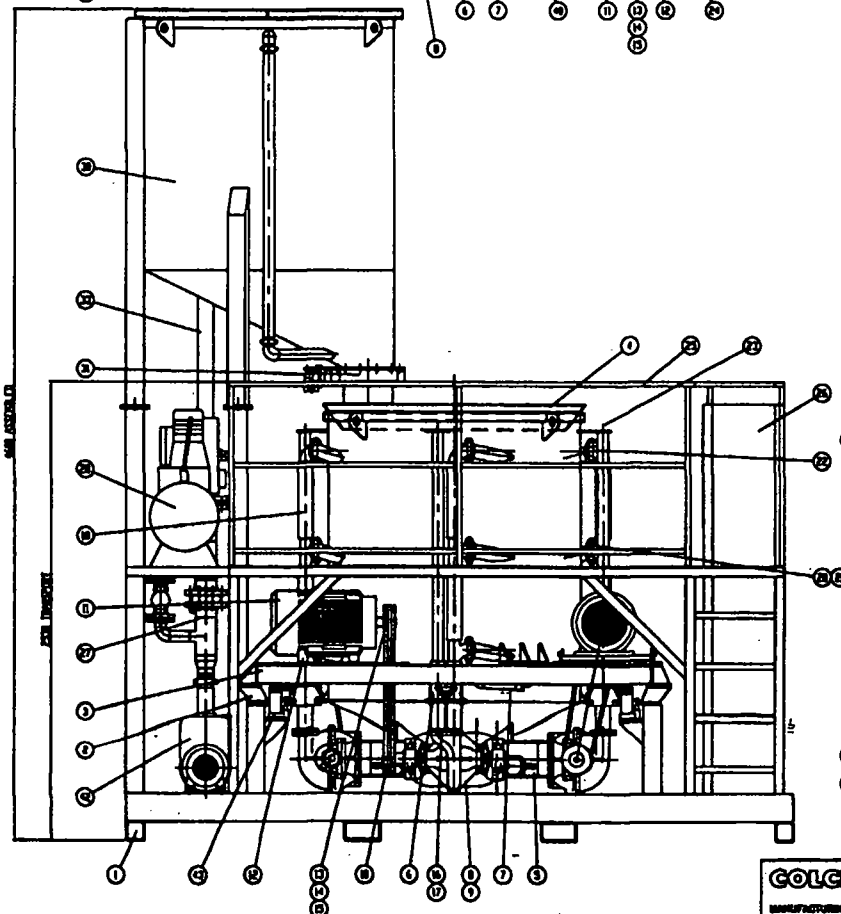
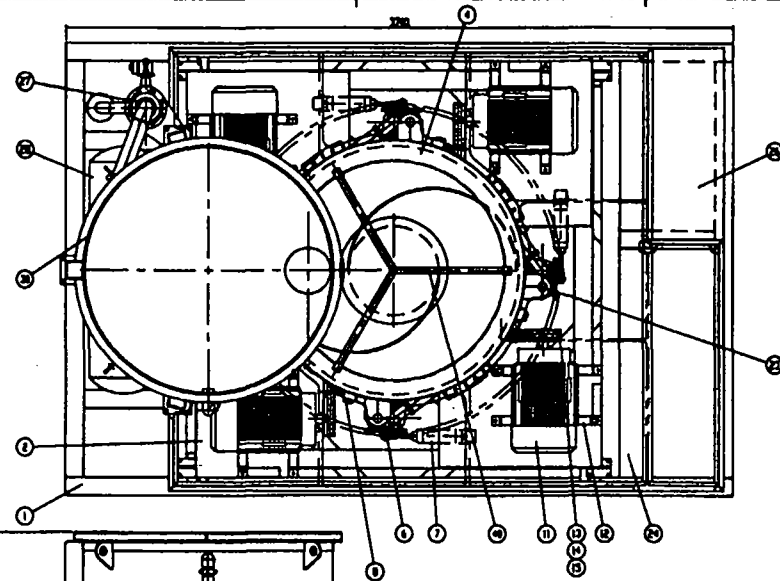
1135 E. Wooley Rd. Ph # 805-247-0418
 Oxnard CA, 93030 Fax # 805-247-0246

www.CementSilos.com

SD2000

COLCRETE WEIGHT BATCHER

REVISED	DATE	BY
ISSUES FOR PRODUCTION	5-76	MR



NOTE: THIS MOWER USES 500 SHAFTS AND SPLIT WORMS

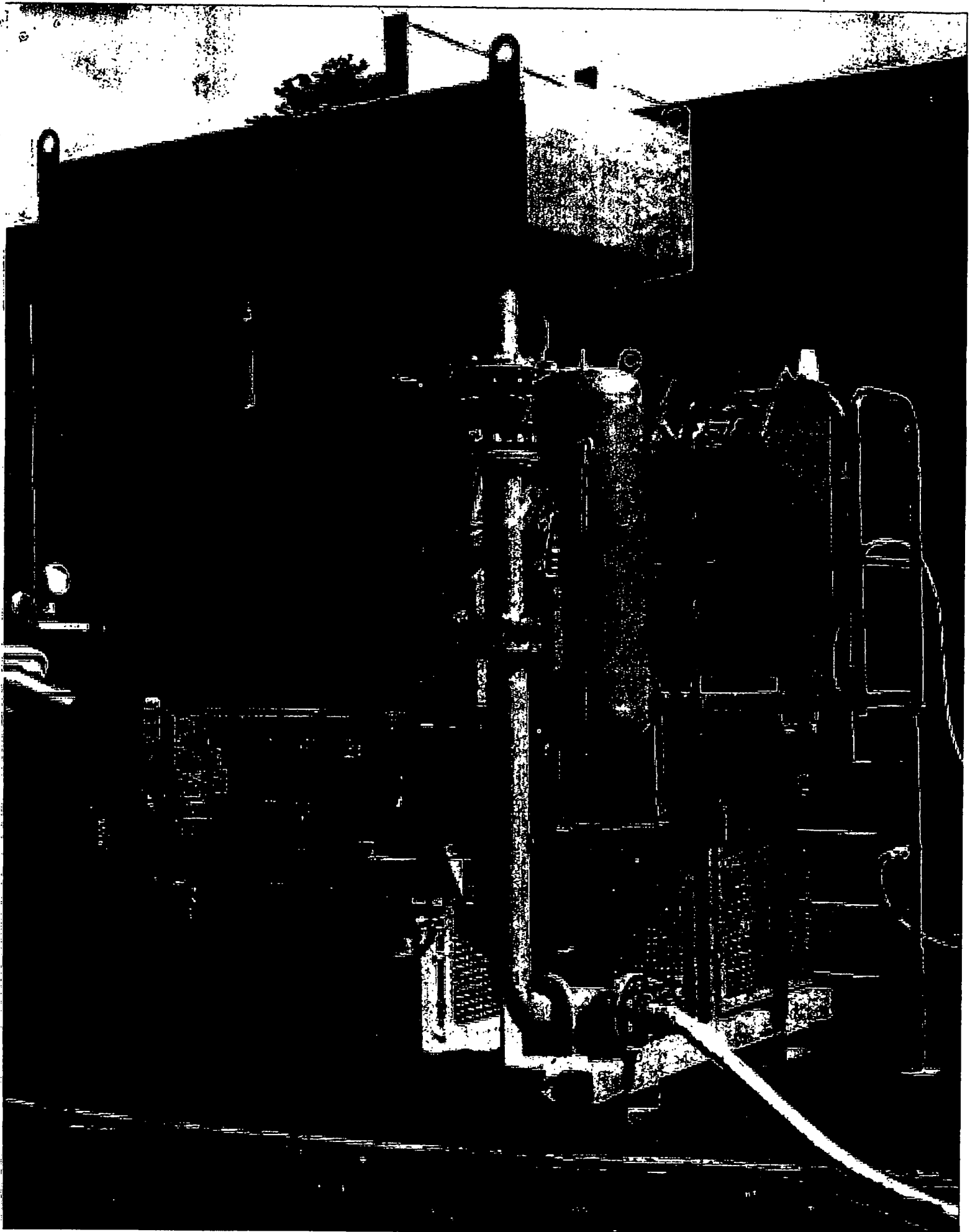
80/2540R	HYDRAULIC JACK	4	
80/2540R	WATER PUMP	4	
1/1017/C340	BELT CLAMP	4	
1/1027/C340	TOP COUPLER	1	
1/1022/C340	80/2540R CONTROL PANEL	1	
1/1016/C340	CLAMP	1	
800704	BRACE	1	
800706	TENSION SCREW	4	
800707	TIGHTENING BAR CLAMP	4	
800704	TOP BEER CLAMP	4	
80/2540R	2" WATER HOSE (TO SUIT)	1	
80/2540R	2" FEMALE BRASS CONNECTOR	2	
80/2540R	1/2" WATER VALVE	1	
1/1022/C340	WATER TANK	1	
1/1015/C340	AIR EQUIPMENT	1	
80/2540R	COMPRESSOR	1	
1/1018/C340	WATER INLET PIPE ASSEMBLY	1	
	MINERAL	1	
1/1018/C340	PLATFORM BRACK	1	
1/1014/C340	DISCHARGE PIPES AND HOUSINGS	4	
800802	SHORT 1/2" CAST IRON	4	
800803	PITCHER SIZE	8	
800805	DRIVE FLANGE GASKET	16	
800803	SUPPORT BAR CLAMP	28	
800808	BOX HOSE (TO SUIT)	1	
801124	DOUBLE WIPPLE GASKET	4	
800809	DOUBLE WIPPLE	4	
800806	DRIVE BELT SPURER	12	
800805	MOWER PULLEY TALKER 2007/40	4	
800805	MOWER PULLEY 604 3/4"	4	
800808	CLIC BOLA	8	
80/2540R	MOWER 400V 3PH 20 HP	4	
800808	100 P.C.B. 3/4" PULLEY INDEX	4	
800807	PUMP/BOX CASTING GASKET	4	
1/1014/C340	MOWER CASTING ASSEMBLY	4	
1/1014/C340	VALVE OPERATING CLAMP	4	
1/1014/C340	RELIEF VALVE	4	
1/1014/C340	TRIP	1	
1/1014/C340	MOWER TANK METAL	1	
1/1014/C340	BRONZE LAMINATE	4	
1/1014/C340	LAMINATE FRINGE METAL	1	
1/1014/C340	CHASSIS METAL	1	
800808	800808	800808	800808

GOLCRETE

MANUFACTURING DIVISION

ASSEMBLY GA. AUTOMATIC OPERATOR

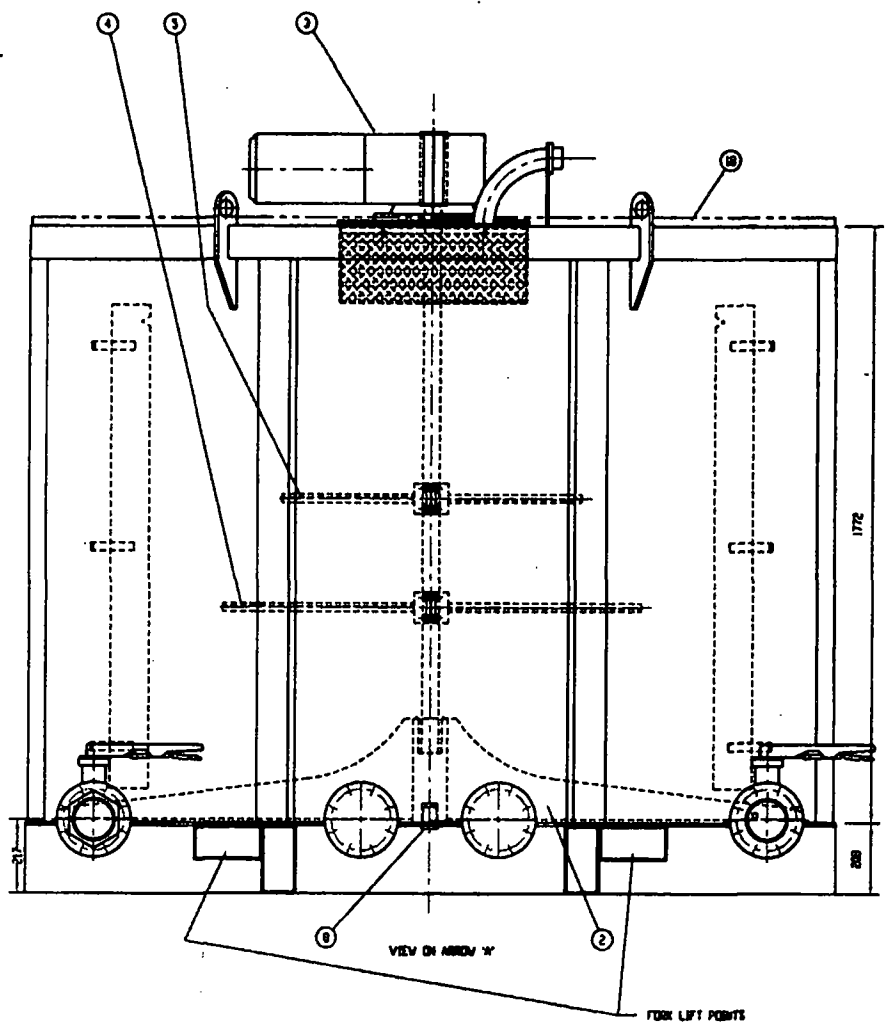
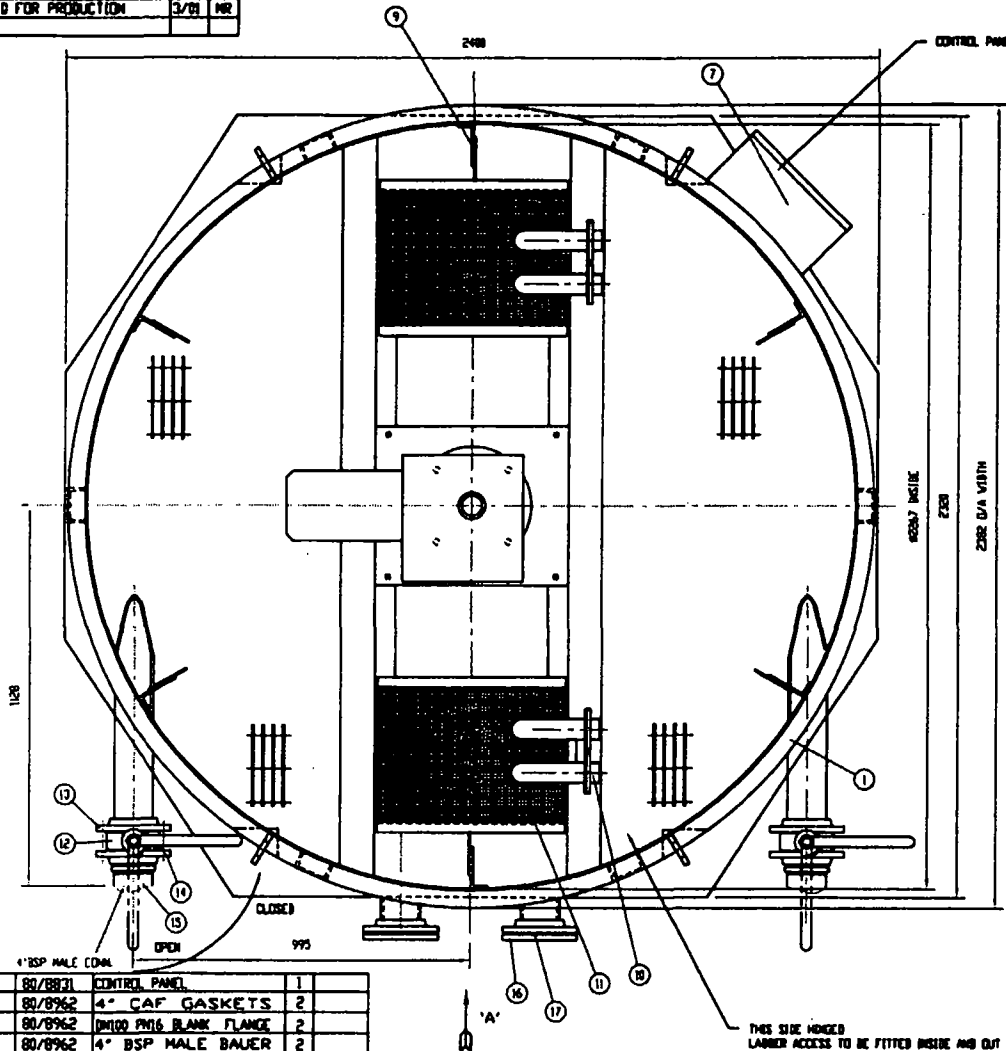
1/1014/C340



AGI 6000

COLECRETE AGITATOR TANK

ISSUED FOR PRODUCTION	3/78	NR
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8	80/8962	CONTROL PANEL	1
7	80/8962	4" CAP GASKETS	2
6	80/8962	DN100 PN16 BLANK FLANGE	2
5	80/8962	4" BSP MALE BAUER	2
4	80/8962	DN80 PN16/3 SCREWED FLANGE	2
3	80/8962	DN100 PN16 WELD FLANGE	4
2	0503097	4" BUTTERFLY VALVED VALVE	2
1	CE/177/47/A2	GROUT BASKET	2
0	CE/121/79/A3	GROUT INLET BONDS	4
9	CE/177/47/A1	BAFFLE PLATES	1
8	CE/177/47/A3	CENTRE LOCATING PIN	1
7	CE/178/47/A1	CONTROL PANEL ENCLOSURE	1
6	CE/178/47/A2	F680 GEARBOX MTG PLATE	1
5	CE/178/47/A3	TOP AGITATOR	1
4	CE/178/47/A3	CENTRE AGITATOR	1
3	80/9036	MR RATES GEARBOX (BREVON)	1
2	CE/177/47/A1	PADDLE SHAFT ASSEMBLY	1
1	CE/177/47/A1	AGGSD AGITATOR TANK DETAIL	1

KELLER
MANUFACTURING DIVISION

ISSUED FOR PRODUCTION 3/78 NR

AGGSD AGITATION TANK
GENERAL ARRANGEMENT
BREVON GEARBOX

REV 3/78

DATE 3/78

BY 17540

CE/178/47/A1

Part No.

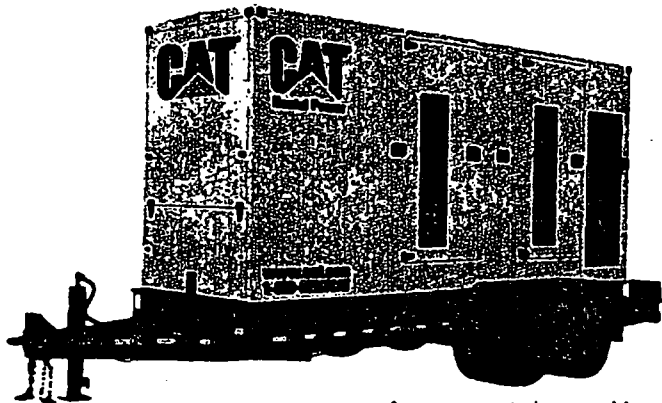
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GENERATORS

CATERPILLAR 400 KW GENERATORS

RENTAL

CATERPILLAR



Arrangement shown with optional trailer with pintle hitch.

XQ400 SOUND ATTENUATED

60 Hz

FEATURES



EMISSIONS

- EPA Tier II and CARB Emissions Certified for non-road mobile applications



CAT 3456 ATAAC DIESEL ENGINE

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines durability with minimum weight while providing dependability and economy



CAT SR4B GENERATOR

- Designed to match performance and output characteristics of Caterpillar diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated AC/DC, low voltage accessory box provides single point access to accessory connections



ENCLOSURE

- Made with 12-gauge steel
- Single point lifting eye
- Sound attenuated
- Convenient hand holds and steps for safe operation

ENVIRONMENTALLY FRIENDLY DESIGN

- Sound attenuated for low noise operation
- OSHA compliant safe design
- Spill containment for coolant, oil and fuel

MULTI-VOLTAGE DISTRIBUTION PANEL

- Load door safety switch, engine faults, and shut down system
- Rust-free hinges on rear opening door
- Adequate space for line and plug connection without interference
- Remote start and stop contacts

SINGLE-SOURCE SUPPLIER

- Complete systems designed at Caterpillar ISO9001 certified facilities
- **Certified Prototype Tested** with torsional analysis

WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1,200 dealer outlets operating in 166 countries, you're never far from the Caterpillar part you need
- 99.5% of parts orders filled within 48 hours. The best product support record in the industry
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system

FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

STANDARD FEATURES	
Air Inlet System	Air cleaner, dual element Turbocharger
Charging System	Battery charger Heavy duty charging alternator
Control Panel	Generator controls and monitoring Fuel tank monitoring Engine controls and monitoring Digital displays
Cooling System	Fan and belt guards Base mounted radiator
Distribution Panel	Lockable doors Individual bus bar connections Circuit breakers Remote start/stop contacts Shore power connections
Enclosure	Sound attenuated Load door safety switch, engine faults and shut down system 12-gauge steel Lockable doors Separate vented battery compartment Single point lifting arch Exterior oil and water drains Hidden exterior fuel drain Hand holds and steps
Fuel System	Primary fuel filter/water separator Spill containment dike 1780 L (470 Gal) dual wall fuel tank
Generator	Brushless, permanent magnet Coastal corrosion protection Shock mounted VR3 voltage regulator Space heater
Mounting System	Generator soft mounted to base Base contains integral fuel tank Skiddable structural steel design
Starting System	Electric starting motor Battery set with disconnect switch Jacket water heater with thermostat, shut-off valves

OPTIONAL FEATURES	
Trailer	Full frame support Independent tandem axle trailer frame with tongue Electric brakes with safety breakaway Full length fenders Non-skid surface on steps Heavy duty safety chains and grab hooks Reinforced 4540 kg (10,000 lb) top wind drop jack

SPECIFICATIONS

CAT SR4B GENERATOR

Frame size	450
Type	Permanent magnet brushless
Construction	Single bearing, close coupled
Three phase	12 lead reconnectable
Insulation	Class H with coastal insulation protection
IP rating	22
Alignment	Pilot shaft
Overspeed capability	
Prototype tested	150%
Production tested	125%
Wave form	Less than 5% deviation
Voltage regulator	3 phase sensing with Volts-per-Hertz no load
Voltage regulation	±½% steady state/±1% full load
TIF	Less than 50
THD	Less than 5%

CAT ENGINE

3456 ATAAC, 4-stroke-cycle watercooled diesel	
Bore — mm (in)	140 (5.5)
Stroke — mm (in)	171 (6.75)
Displacement — L (cu in)	15.8 (966)
Compression ratio	16.0:1
Aspiration	Turbocharged-ATAAC

CAT CONTROL PANEL

24 Volt DC Control
NEMA 1, IP22 enclosure
Lockable hinged door
Generator instruments meet ANSI C-39-1
Enclosure mounted
Single location customer connector point

Consult your Caterpillar dealer for available voltages.

TECHNICAL DATA

		XQ400	
Power Rating		Standby	Prime
60 Hz	ekW	400	DM6125 385
Engine and Container Information		3456 ATAAC see chart on next page	
Engine model			
Container dimensions			
Shipping Weight (Dry)			
Unit with trailer	kg (lb)	7620 (16,800)	
Unit without trailer	kg (lb)	6287 (13,860)	
Maximum Fuel Capacity Weight			
Unit with trailer	kg (lb)	9280 (20,458)	
Unit without trailer	kg (lb)	7946 (17,518)	
Engine Lubricating Oil Capacity	L (Qts)	38 (39.9)	
Engine Coolant Capacity with Radiator	L (Gal)	64 (17)	
Fuel Tank Capacity	L (Gal)	1780 (470)	
Fuel Consumption with Fan	L/hr (Gal/hr)	109.8 (29.0)	97.3 (25.7)
Fuel Consumption (75% Prime) with Fan	L/hr (Gal/hr)		74.1 (19.8)
Running Time @ 75% Prime	hours		24
Sound Level			
Standby	dBA		75.35
No load @ 7 m (23 ft)	dBA		72.65

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications:

- ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA 101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG1-22, VDE0530, 89/392/EEC, 89/336/EEC

Standby — Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

Prime — Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request.

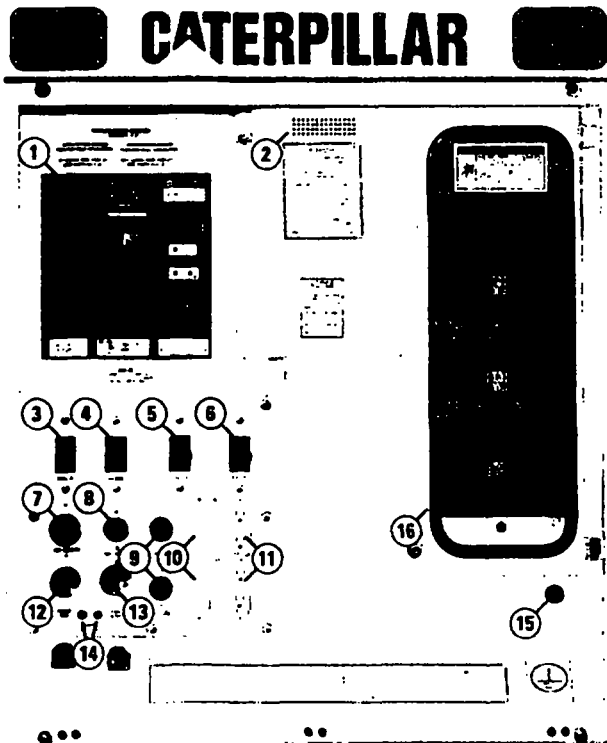
Ratings are based on SAE J1349 standard conditions.

These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Fuel rates are based on fuel oil of 35° API (@ 16° C (60° F)) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

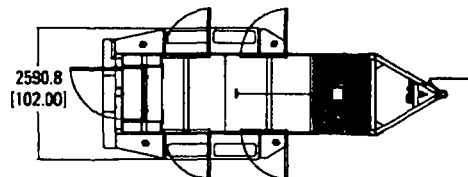
DISTRIBUTION PANEL



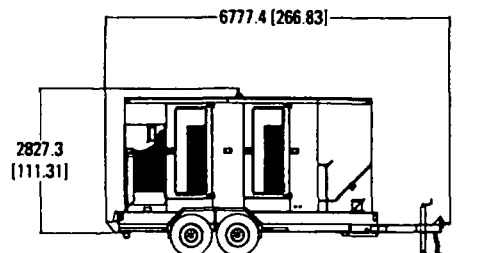
Wiring Descriptions

1. 1600A main breaker 240V/480V with adjustable trip and 24V DC shunt trip
2. Voltage change over board
3. 50 amp 240V branch breaker
4. 20 amp 240V branch breaker
5. 20 amp 120V branch breaker
6. 15 amp 120V branch breaker
7. 50 amp 240V twistlock receptacle
8. 20 amp 240V twistlock receptacle
9. 20 amp 120V twistlock receptacle
10. 20 amp 120V ground fault interrupter
11. 15 amp 120V ground fault interrupter duplex receptacle
12. 30 amp 120V battery charger/generator space heater receptacle
13. 30 amp 120V JWH receptacle
14. Remote start/stop contacts
15. 12.7 mm (1/2") ground stud
16. Load connection bus board [6.35 mm × 101.6 mm × 101.6 mm (1/4" × 4" × 4") bus bars]

CONTAINER DIMENSIONS — TOP VIEW



CONTAINER DIMENSIONS — RIGHT SIDE VIEW



Package Dimensions				
	Enclosure		With Trailer	
Length	5080 mm	200 in	6777.4 mm	266.83 in
Width	1549 mm	61 in	2590.8 mm	102 in
Height	2827.3 mm	111.31 in	3302 mm	130 in

www.CAT-ElectricPower.com

U.S. sourced

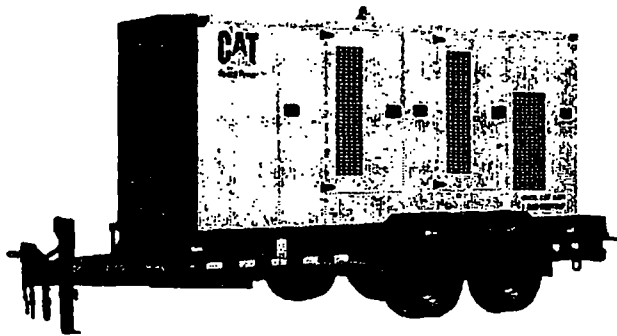
TMI Reference No.: DM6125

LEHX0758-02 (4-02)

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Materials and specifications are subject to change without notice.
The International System of Units (SI) is used in this publication.

CATERPILLAR 200 KW GENERATORS



Arrangement shown with optional trailer with pintle hitch.

XQ200 SOUND ATTENUATED

60 Hz

FEATURES



EMISSIONS

- EPA Tier II and CARB Emissions Certified for non-road mobile applications



DIESEL ENGINE

- Reliable, rugged, durable design
- Field-proven in thousands of applications worldwide
- Four-stroke-cycle diesel engine combines durability with minimum weight while providing dependability and economy



CAT SR4B GENERATOR

- Designed to match performance and output characteristics of diesel engines
- Optimum winding pitch for minimum total harmonic distortion and maximum efficiency
- Segregated AC/DC, low voltage accessory box provides single point access to accessory connections



ENCLOSURE

- Made with 12-gauge steel
- Single point lifting eye
- Sound attenuated
- Convenient hand holds and steps for safe operation
- 2 coat polyester powder coated finish

ENVIRONMENTALLY FRIENDLY DESIGN

- Sound attenuated for low noise operation
- OSHA compliant safe design
- Spill containment for coolant, oil and fuel
- UL142 certified
- Dual wall fuel
- Base feature

MULTI-VOLTAGE DISTRIBUTION PANEL

- Load door safety switch, engine faults, and shut down system
- Rust-free hinges on rear opening door
- Adequate space for line and plug connection without interference
- Remote start and stop contacts

SINGLE-SOURCE SUPPLIER

- Complete systems designed at Caterpillar ISO9001 certified facilities
- **Certified Prototype Tested** with torsional analysis

WORLDWIDE PRODUCT SUPPORT

- Worldwide parts availability through the Caterpillar dealer network
- With over 1,200 dealer outlets operating in 166 countries, you're never far from the Caterpillar part you need
- 99.5% of parts orders filled within 48 hours. The best product support record in the industry
- Caterpillar dealer service technicians are trained to service every aspect of your electric power generation system

LEHX0756-04



FACTORY INSTALLED STANDARD & OPTIONAL EQUIPMENT

STANDARD FEATURES	
Air Inlet System	Air cleaner, heavy duty Turbocharger
Charging System	Battery charger Heavy duty charging alternator
Control Panel	Generator controls and monitoring Fuel tank monitoring Engine controls and monitoring Digital displays
Cooling System	Fan and belt guards Base mounted radiator Air to air aftercooling
Distribution Panel	Lockable doors Load door safety switch, engine faults and shut down system Individual bus bar connections Circuit breakers Remote start/stop contacts Shore power connections
Enclosure	Sound attenuated 12-gauge steel Lockable doors Separate vented battery compartment Single point lifting arch Exterior oil and water drains Hidden exterior fuel drain Hand holds and steps Powder coated finish
Fuel System	Primary fuel filter/water separator Spill containment dike 1158 L (306 Gall) dual wall fuel tank UL142 dual wall fuel tank 330 gallon
Generator	Brushless, permanent magnet Coastal corrosion protection Shock mounted VR3 voltage regulator Space heater
Mounting System	Generator soft mounted to base Base contains integral fuel tank Skiddable structural steel design
Starting System	Electric starting motor Battery set with disconnect switch Jacket water heater with thermostat, shut-off valves

OPTIONAL FEATURES	
Trailer	Full frame support Independent tandem axle trailer frame with tongue Electric brakes with safety breakaway Full length fenders Non-skid surface on steps Heavy duty safety chains and grab hooks Reinforced 4540 kg (10,000 lb) top wind drop jack

SPECIFICATIONS



CAT SR4B GENERATOR

Frame size	448
Type.....	Permanent magnet brushless
Construction	Single bearing, close coupled
Three phase	12 lead reconnectable
Insulation	Class H with coastal insulation protection
IP rating	22
Alignment.....	Pilot shaft
Overspeed capability	
Prototype tested	150%
Production tested	125%
Wave form.....	Less than 5% deviation
Voltage regulator	3 phase sensing with Volts-per-Hertz no load
Voltage regulation.....	±½% steady state/±1% full load
TIF	Less than 50
THD	Less than 5%



ENGINE

1306-E87TA300, 4-stroke-cycle watercooled diesel	
Bore — mm (in)	116.6 (4.59)
Stroke — mm (in)	135.9 (5.35)
Displacement — L (cu in)	8.71 (532)
Compression ratio	16.9:1
Aspiration.....	Turbocharged AA charge cooled



CAT CONTROL PANEL

24 Volt DC Control
NEMA 1, IP22 enclosure
Lockable hinged door
Generator instruments meet ANSI C-39-1
Enclosure mounted
Single location customer connector point

Consult your Caterpillar dealer for available voltages.

TECHNICAL DATA

		XQ200	
		Standby	Prime DM6197
Power Rating			
60 Hz	ekW	200	180
Engine and Container Information		1306-E87Ta300 see chart on next page	
Engine model			
Container dimensions			
Shipping Weight (Dry)			
Unit with trailer	kg (lb)	5452 (12,020)	
Unit without trailer	kg (lb)	4345 (9580)	
Maximum Fuel Capacity Weight			
Unit with trailer	kg (lb)	6641 (14,640)	
Unit without trailer	kg (lb)	5534 (12,200)	
Engine Lubricating Oil Capacity	L (Gal)	26.4 (7)	
Engine Coolant Capacity with Radiator	L (Gal)	39.8 (10.5)	
Fuel Tank Capacity	L (Gal)	1249.1 (330)	
Fuel Consumption 100% Load	L/hr (Gal/hr)	61.28 (16.18)	
Fuel Consumption with Fan	L/hr (Gal/hr)	58.3 (15.4)	52.9 (14.0)
Fuel Consumption (75% Prime) with Fan	L/hr (Gal/hr)	40.6 (10.7)	
Running Time @ 75% Prime	hours	24	
Sound Level			
Standby	dBA	73.7	
No load @ 7 m (23 ft)	dBA	70.2	
Prime	dBA	72.3	

RATING DEFINITIONS AND CONDITIONS

Meets or Exceeds International Specifications:

- ABGSM TM3, AS1359, AS2789, BS4999, BS5000, BS5514, DIN6271, DIN6280, EGSA101P, IEC34/1, ISO3046/1, ISO8528, JEM1359, NEMA MG1-22, VDE0530, 89/392/EEC, 89/336/EEC

Standby — Output available with varying load for the duration of the interruption of the normal source power. Standby power in accordance with ISO8528. Fuel stop power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514.

Prime — Output available with varying load for an unlimited time. Prime power in accordance with ISO8528. 10% overload power in accordance with ISO3046/1, AS2789, DIN6271, and BS5514 available on request.

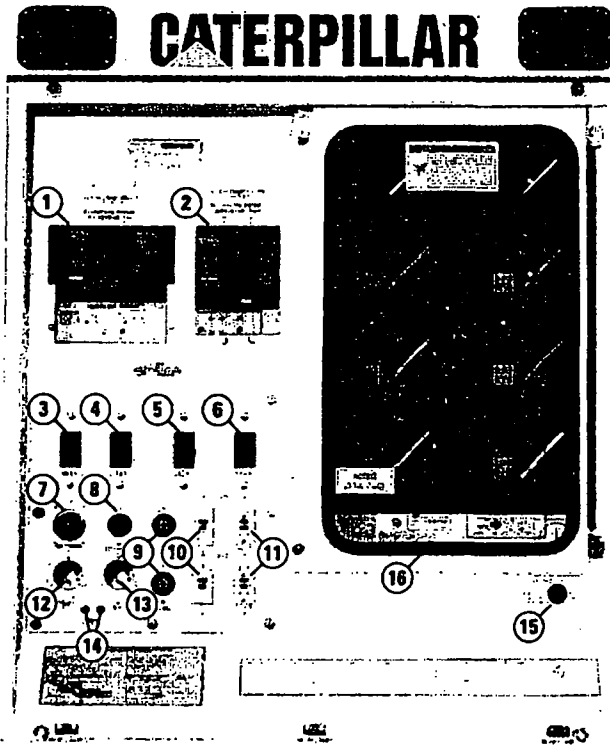
Ratings are based on SAE J1349 standard conditions.

These ratings also apply at ISO3046/1, DIN6271, and BS5514 standard conditions.

Fuel rates are based on fuel oil of 35° API (@ 16° C (60° F)) gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for details.

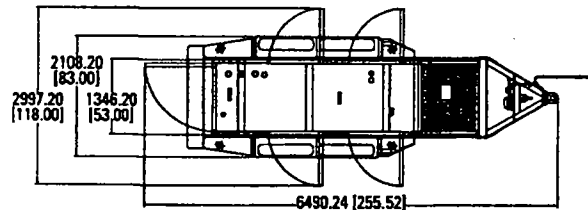
DISTRIBUTION PANEL



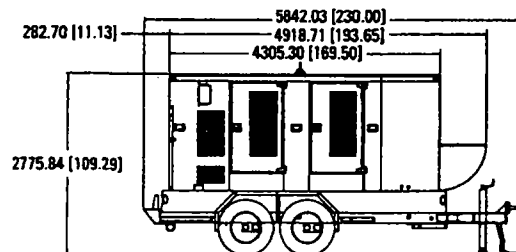
Wiring Descriptions

1. 700A main breaker 240V with 24V shunt trip
2. 350A main 480V with 24V shunt trip
350A main 600V with 24V shunt trip
3. 50 amp 240V branch breaker
4. 20 amp 240V branch breaker
5. 20 amp 120V branch breaker
6. 15 amp 120V branch breaker
7. 50 amp 240V twistlock receptacle
8. 20 amp 240V twistlock receptacle
9. 20 amp 120V twistlock receptacle
10. 20 amp 120V ground fault interrupter
11. 15 amp 120V ground fault interrupter duplex receptacle
12. 30 amp 120V battery charger/generator space heater receptacle
13. 30 amp 120V JWH receptacle
14. Remote start/stop contacts
15. 12.7 mm (1/2") ground stud
16. Dual voltage load connection bus board [6.35 mm × 101.6 mm × 101.6 mm (1/4" × 4" × 4") bus bars]

CONTAINER DIMENSIONS — TOP VIEW



CONTAINER DIMENSIONS — RIGHT SIDE VIEW



Package Dimensions				
	Enclosure		With Trailer	
Length	4305.3 mm	169.5 in	5842.03 mm	230 in
Width	1346.2 mm	53 in	2108.2 mm	83 in
Height	2362 mm	93 in	2775.84 mm	109.29 in



U.S. sourced

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LEHX0756-04 (3-04)

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TRD

**TRENCH CUTTING REMIXING DEEP
WALL MACHINE**

TRD Working Platform Width

1. Outline

Follows figure of the TRD machine shows the general required TRD machine(type-2) working space.

In case that the working space is narrow for the TRD machine, we are considering the construction way at each site conditions.

2. Machine dimension and working space

1)Mark:

- (A) : Center of the wall (Cutter post)
- (B) : End of the crawler
- (C) Rear end of the machine as the power unit
- (D) Front space of the machine

2)Machine length at each part

	I	II	III (I + II)	IV	V (III+IV)
Mark	(A) to (B)	(B) to (C)	(A) to (C)	(A) to (D)	(A) to (C)
Length	22.4ft	10.7ft	33.1ft	4.9ft	38ft

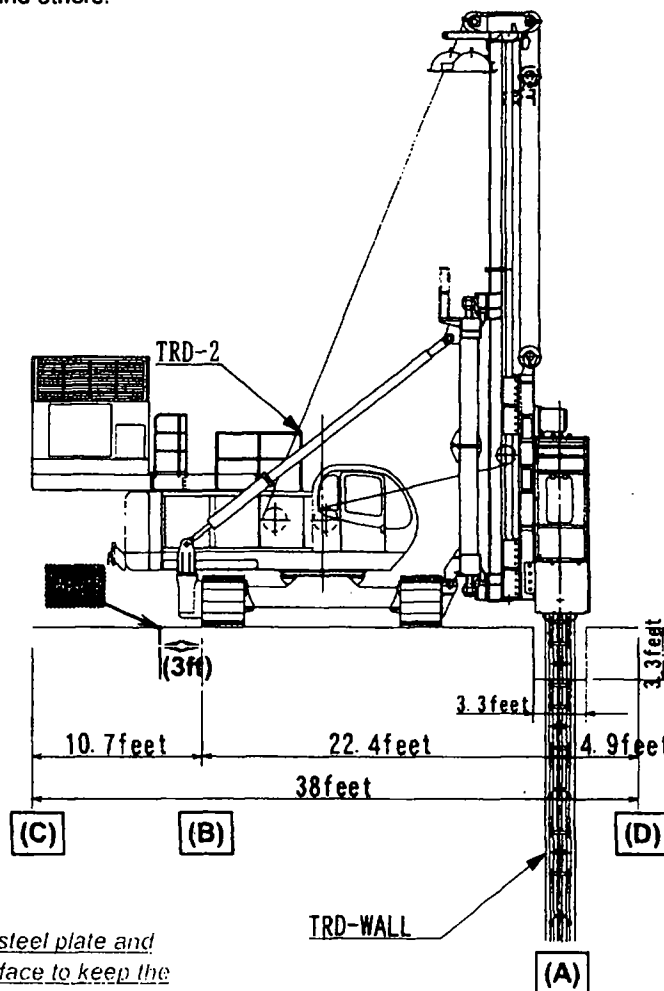
3)Remarks

Generally, the space (A) to (C) as 33.1ft is required from the center of the wall to toward the machine, and (A) to (D) as 4.9ft is required toward front of the machine.

However, if it is difficult to keep the sufficient working space between (A) to (C), TRD machine can work based on the working space (A) to (B) as 22.4ft and plus extra space (approx. 3ft : from (B) to (α)) from the end of the crawler .

And if feasible, keeping the space of the front of machine (A) to (D) as 4.9ft is required.

Finally, we are considering the TRD working space at each project, including the handling space of the spoil, how to feed the oil to the power unit, and others.

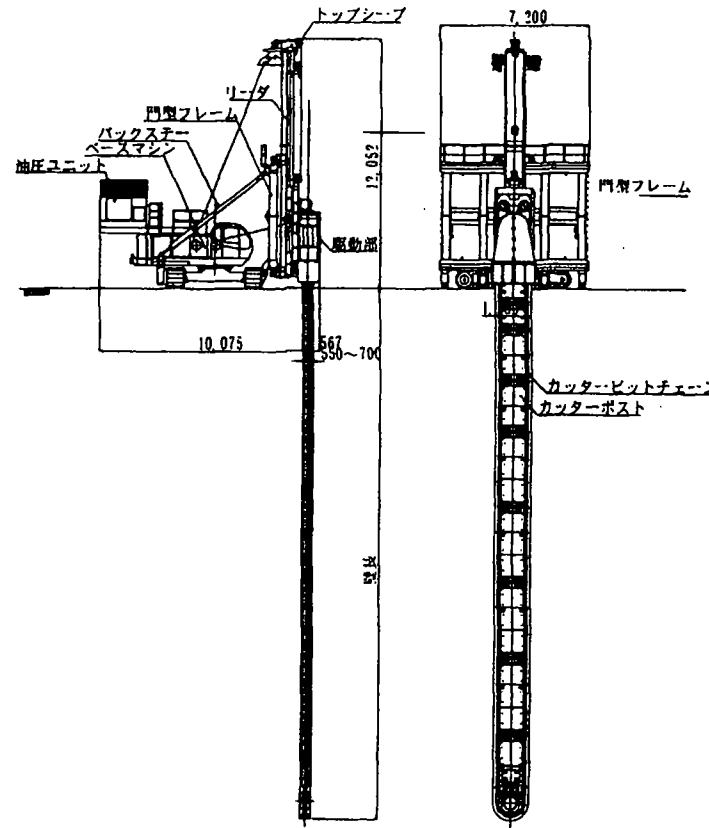


**) It is required to set the steel plate and improve the ground surface to keep the sufficient stability for the TRD machine, during construction.*

TRD machine -2)

● TRD type- II (mm)

Standard type



May 14, 2007

40

MATERIALS

BENTONITE



HYDROGEL[®]

NSF/ANSI 60

For use in drilling operations where premium grade Wyoming Bentonite is desired. HYDROGEL[®] is a preferred product for use in oil and gas exploration drilling. It is also used in slurry trenching, caisson boring, and cast-in-place concrete foundations.

PRODUCT CHARACTERISTICS:

- Manufactured to exceed API 13A, Section 9 specifications.
- 200 mesh viscosity builder.
- Yields excellent fluid loss characteristics.
- Assists in stabilizing the bore hole or trench walls.

PRODUCT SPECIFICATIONS	A.P.I. Specifications 13-A, Sec. 9-2004	Typical HYDROGEL [®]
Barrel Yield	--	96 ± 5
Viscometer Reading at 600 rpm	30 Min.	36 ± 6
Water Loss	15.0 cc Max.	13.5 ± 1
% through 200 Mesh Screen	--	80 ± 4
Wet Screen Analysis Residue on U.S. Sieve No. 200	4.0% Max.	3.0 ± .5
% Moisture	10.0%	7 ± 1
pH	--	9.0 ± 1.0
Gel Strength—10 sec	--	4 ± 1
Gel Strength—10 min	--	12 ± 3
Plastic Viscosity	--	12 ± 2
Yield Point, lb/100 sq. ft.	3 x P.V. Max.	16 ± 2

APPLICATION RATE

Mix 20 to 50 pounds per 100 gallons of make-up water. This product is designed to be flushed out of the well bore prior to using the well for drinking water. Before placing a well in service for drinking water it is to be properly flushed and drained until the turbidity of the water is <1 NTU above ambient turbidity.

HYDROGEL[®] is available in 50 pound and 100 pound multi-walled paper bags, bulk bags, or bulk.

PRODUCT SPECIFICATIONS	A.P.I. Specifications 13-A, Sec. 9-2004	Typical HYDROGEL®
Barrel Yield	--	96 ± 5
Viscometer Reading at 600 rpm	30 Min.	36 ± 6
Water Loss	15.0 cc Max.	13.5 ± 1
% through 200 Mesh Screen	--	80 ± 4
Wet Screen Analysis Residue on U.S. Sieve No. 200	4.0% Max.	3.0 ± .5
% Moisture	10.0%	7 ± 1
pH	--	9.0 ± 1.0
Gel Strength—10 sec	--	4 ± 1
Gel Strength—10 min	--	12 ± 3
Plastic Viscosity	--	12 ± 2
Yield Point, lb/100 sq. ft.	3 x P.V. Max.	16 ± 2

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HYDROGEL® is available in 50 pound and 100 pound multi-walled paper bags, bulk bags, or bulk.

CEMENT



11000 N.W. 121 WAY
Medley, Florida

Consignee _____ Destination _____
 Date _____ Car/Truck _____ Plant _____
 Batch # 2007-0950-2 Type I/II
 Silos 1,8,10,11,12

CHEMICAL REQUIREMENTS	Average Percent		SPECIFICATION			
			AASHTO M-85		ASTM C-150	
			TYPE I	TYPE II	TYPE I	TYPE II
Silicon Dioxide (SiO ₂)	20.6	MIN %		20.0		20.0
Aluminum Oxide (Al ₂ O ₃)	5.2	MAX %		6.0		6.0
Ferric Oxide (Fe ₂ O ₃)	4.2	MAX%		6.0		6.0
Calcium Oxide (CaO)	63.4					
Magnesium Oxide (MgO)	0.9	MAX%	6.0	6.0	6.0	6.0
Sulfur Trioxide (SO ₃) When 3CaO.Al ₂ O ₃ <8%	3.4	MAX%	3.0	3.0	3.0	3.0
Sulfur Trioxide (SO ₃) When 3CaO.Al ₂ O ₃ >8%		MAX%	3.5		3.5	
Ignition Loss	1.6	MAX%	3.0	3.0	3.0	3.0
Insoluble Residue	0.30	MAX%	0.75	0.75	0.75	0.75
Tricalcium Silicate (C3S)	51	MAX%		58		58
Tricalcium Aluminate (C3A)	7	MAX%		8		8
Na ₂ O Equivalent	0.38	MAX%	0.60	0.60	0.60	0.60

PHYSICAL REQUIREMENTS						
BLAINE	3881	MIN	2800	2800	2800	2800
		MAX	4000	4000		
Specific Surface (Wagner)		MIN	1600	1600	1600	1600
		MAX	2200	2200		
Soundness, Autoclave expansion - 325 MESH % Passing	0.15	MAX	0.80	0.80	0.80	0.80
7 days Heat of Hydration (cal/g)	96.2					
AIR CONTENT %	5.9	MAX	12	12	12	12
Time of set(Vicat) initial	110	MIN	60	60	60	60
Time of set(Vicat) Final	199	MAX	600	600	600	600
Compressive Strength, psi 1 Day	2062			7238		
Compressive Strength, psi 3 Day	3197	MIN	1800	1500	1740	1450
Compressive Strength, psi 7 Day	4309	MIN	2800	2500	2760	2470
Compressive Strength, psi 28 D (prev. month)	6575					

This Mill Certificate covers cement in this shipment and all future shipments with this batch number. This cement conforms to ASTM C-150 for type I and II. Also conform to Florida Department of Transportation AASHTO M-85 for Type I and II. The cement covered by this mill test cetificate has been produced in the United States including the manufacturing of the clinker.

Date 10/2/2007

Victor Turin

 Quality Manager

MATERIAL SAFETY DATA SHEET

for Portland Cement



Effective Date: August 2001

Page 1 of 4

1. PRODUCT/COMPANY IDENTIFICATION

Manufacturer's Name & Address:

Titan Florida
11000 NW 121 Way
Medley, FL 33178

Trade Name:

Portland Cement

Chemical Name and Synonyms

Gypsum Hydraulic cement, portland cement silicate.

Department of Transportation Identification No.:

None

Telephone Number for Information:

1.800.458.4250

Emergency Telephone:

1.800.985.9896

*Composition varies, may contains crystalline silica

2. COMPOSITION INFORMATION

Major Compounds

<u>Chemical Name</u>	<u>CAS Registry Number</u>	<u>% in this cement product</u>
Portland Cement*	65997-15-1	95
Gypsum (calcium sulfate)	13397-24-5	5
* May contain crystalline silica	14808-60-7	> .1

3. PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	N/A
Specific Gravity (H ₂ O = 1)	3.15
Vapor Pressure (mm Hg)	N/A
Melting Point	N/A
Vapor Density (AIR-1)	N/A
Evaporation Rate	N/A
Solubility in Water	Slightly soluble (0.1 to 1.0 %)
pH (in water) (ASTM D 1293-95)	12 to 13
Appearance & Odor	White or grey powder; no odor

4. FIRE AND EXPLOSION HAZARD DATA

Flash Point	N/A
Extinguishing Media	N/A
Special Fire Fighting Procedures	None
Unusual Fire & Explosion Hazards:	None
Flammable Limits	N/A
LEL	N/A
UEL	N/A

MATERIAL SAFETY DATA SHEET

for Portland Cement



5. REACTIVITY DATA

- Stability:** Stable. Avoid unintentional contact with water and incompatible materials.
- Incompatibility:** Wet portland cement is alkaline. It is incompatible with acids, ammonium salts and aluminum metal.
- Hazardous Decomposition or Byproducts:** Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide. Respirable dust particles may occur from handling dry material.
- Hazardous Polymerization:** Will not occur. No conditions to avoid.

6. HEALTH HAZARD DATA AND FIRST AID

EXPOSURE LIMITS:

Unless specified otherwise, limits are expressed as a time-weighted average (TWA) concentration for an 8-hour work shift of a 40-hour workweek. Limits for cristobalite and tridymite (other forms of crystalline silica) are equal to one-half the limits for quartz.

ABBREVIATIONS:

ACGIH TLV: Threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH).

mg/m³: Milligrams of substance per cubic meter of air.

NIOSH REL: Recommended exposure limit of the National Institute for Occupational Safety and Health (NIOSH), expressed as a TWA concentration for up to a 10-hour work-day during a 40-hour workweek.

OSHA PEL: Permissible exposure limit of the federal Occupational Safety and Health Administration (OSHA).

Portland Cement: OSHA PEL (respirable fraction) 5 mg/m³, (total dust) 15 mg/m³, ACGIH TLV (total dust) 10 mg/m³, NIOSH REL (respirable) 5 mg/m³ (total) 10 mg/m³.

Gypsum (Calcium sulfate): OSHA PELs (respirable fraction) 5 mg/m³, (total dust) 15 mg/m³, ACGIH TLV (total dust) 10mg/m³.

Crystalline Silica SiO₂: OSHA PELs (respirable fraction) $[10 \text{ mg/m}^3 \div (\% \text{ SiO}_2+2)]$, (total dust) $[30 \text{ mg/m}^3 \div (\% \text{ SiO}_2+2)]$, ACGIH TLV (respirable fraction) 0.05 mg/m³; NIOSH REL (respirable fraction) 0.05 mg/m³.

Other Particulates: OSHA PEL (total particulate, not otherwise regulated) 15 mg/m³, (respirable particulate, not otherwise regulated) 5 mg/m³, ACGIH TLV (nuisance particulates) 10 mg/m³ (inhalable); 5 mg/m³ (respirable).

HEALTH HAZARDS:

Primary Route(s) of Entry:

Inhalation: Yes

Skin: Yes

Ingestion: No

Acute:

Eye Contact: Direct contact with dust may cause irritation. Direct contact by larger amounts of dry powder or splashes of wet portland cement may cause effects ranging from moderate eye irritation to chemical burns and blindness.

Skin Contact: Exposure to dry portland cement may cause drying of the skin with consequent mild irritation. Dry portland cement contacting wet skin or exposure to moist or wet portland cement may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns. Some individuals may exhibit an allergic response upon exposure to portland cement, possibly due to trace amounts of chromium. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers.

Skin Absorption: Not expected to be a significant exposure route.

Ingestion: Although small quantities of dust are not known to be harmful, ill effects are possible if larger quantities are consumed. Portland cement should not be ingested.

Inhalation: Dusts may irritate the nose, throat, and respiratory tract. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits.

MATERIAL SAFETY DATA SHEET

for Portland Cement



Page 3 of 4

Chronic:

Inhalation: Chronic exposure to respirable dust in excess of appropriate exposure limits may cause lung disease. Silicosis may result from excessive exposure to respirable silica dust for prolonged periods. Not all individuals with silicosis will exhibit symptoms. Silicosis is progressive and symptoms can appear at any time, even after exposure has ceased. Symptoms may include shortness of breath, coughing, or right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Tobacco smoking may increase the risk of developing lung disorders, including emphysema and lung cancer.

Carcinogenicity: Portland cement is not listed as a carcinogen by the National Toxicology Program (NTP), OSHA or the International Agency for Research on Cancer (IARC). It may, however, contain trace amounts of substances listed as carcinogens by these organizations. Crystalline silica, a potential trace level contaminant in Portland cement, is classified by the IARC as a carcinogenic to humans (Group 1). The NTP has characterized respirable silica as "known to be a human carcinogen". Prolonged and repeated breathing of silica may cause lung cancer.

Signs & Symptoms

of Exposure: Irritation of eyes, skin and/or respiratory system.

Medical Conditions

Generally

Aggravated

by Exposure: Inhaling respirable dust may aggravate existing respiratory system disease(s) and/or dysfunctions such as emphysema or asthma and may aggravate existing skin and/or eye conditions.

EMERGENCY & FIRST AID PROCEDURES:

Eyes: Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

Skin: Wash skin with cool water and pH-neutral soap or mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged direct exposure to wet cement, cement mixtures, liquids from fresh cement products, or prolonged wet skin exposure to dry cement.

Ingestion: Do not induce vomiting. If person is conscious, give large quantity of water. Get immediate medical attention.

Inhalation: Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

7. PERSONAL PROTECTION AND CONTROL MEASURES

Ventilation: Local exhaust or general ventilation adequate to maintain exposures below appropriate exposure limits.

Other: Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) ventilation, process enclosure, and enclosed employee work stations.

Respiratory

Protection: When dust or silica levels exceed or are likely to exceed appropriate exposure limits, follow MSHA or OSHA regulations, as appropriate, for use of NIOSH-approved respiratory protection equipment.

Skin Protection: Protective gloves, shoes and protective clothing that are impervious to water should be worn to avoid contact with skin.

Eye Protection: Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessive (visible) dust conditions are present or anticipated. Contact lenses should not be worn when working with this product.

Hygiene: Periodically wash exposed skin with a pH-neutral soap. Wash again before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use. If clothing becomes saturated with wet cement, it should be removed and replaced with clean, dry clothing.

MATERIAL SAFETY DATA SHEET

for Portland Cement



Page 4 of 4

8. STORAGE AND HANDLING PRECAUTIONS

Respirable silica and dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Keep portland cement dry until used.

Do not store or handle near food and beverages or smoking materials.

9. SPILL, LEAK AND DISPOSAL PRACTICES

The personal protection and controls identified in Section VII of the MSDS should be applied as appropriate.

Steps to Be Taken if Material is Released or Spilled: Use dry clean-up methods which do not disperse dust into the air. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate personal protective equipment. Scrape up wet material and place in an appropriate container. Allow the material to "dry" before disposal.

Waste Disposal Method: Do not attempt to wash portland cement down drains. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

NOTICE: Based on research of available data, Titan Florida believes that the information contained in this Material Safety Data Sheet is accurate. The suggested procedures are based on data and experience as of the date of preparation of the MSDS. The suggestions should not be confused with nor followed in violation of applicable laws, regulations, rules or insurance requirements. Titan Florida's voluntary preparation of this MSDS should not be construed, in any way, as an agreement to be subject to MSHA/OSHA jurisdiction, as applicable.

GRANULATED BLAST FURNACE SLAG



P.O. Box 335
Newtown, CT 06470
Tel: 203.270.1416
Fax: 203.270.1931
www.bulkmaterials.net

Description: Granulated Blast Furnace Slag

Source: Japan

Method: Trace Metals Analysis by ICP-OES TCLP

Date: 12/13/05

N/D = NOT DETECTED

<u>ELEMENT</u>	<u>RESULTS</u>	<u>LIMITS</u>	<u>DETECTION</u>
	mg/l	mg/l	LIMIT mg/l
ARSENIC (As)	N/D < .04	5	.04
BARIUM (Ba)	0.04	100	.01
CADMIUM (Cd)	N/D < .01	1	.01
CHROMIUM (Cr III, VI)	N/D < .01	5	.01
LEAD (Pb)	N/D < .03	5	.03
SELENIUM (Se)	N/D < .07	1	.07

Material Certification Report



Brand Name: CAMCEM™

Material: GGBFS Cement

Type: 100 or Higher (ASTM C989)

DATE: 01-Oct-2007

General Information

Supplier: Hanson Slag Cement DBA Civil and Marine, Inc
 Address: 575 Cargo Road
 Cape Canaveral, Florida 32920
 Telephone: (321)783-0373

Source Location: Hanson Slag Cement
 575 Cargo Road
 Cape Canaveral, Florida 32920
 Contact: Dennis Thompson (321)783-0373

The following information is based on average test data. The data is typical of GGBFS shipped by Hanson Slag Cement; individual shipments may vary.

Test Data on ASTM Standard Requirements

Chemical (C989, Table 2)			Physical (C989, Table 1)		
Item	Limit	Result	Item	Limit	Result
			+45 µm (No. 325) Sieve (%)	20 max	0.74
			Blaine Fineness (m2/kg)	-	521
Sulfide S (%)	2.5 max	0.8	Air Content (%)	12 max	4.0
			Slag Activity Index (%)		
Sulfate Ion - SO ₃ (%)	4.0 max	2.2	Average of Last 5 Samples:		
			Avg 7 Day Index	75 min	100
			Avg 28 Day Index	95 min	124
			Current Samples:		
			7 Day Index	70 min	99
			28 Day Index	90 min	123

Test Data on Reference Cement

Chemical			Physical		
Item	Limit	Result	Item	Limit	Result
Total Alkalies as Na ₂ O (%)	0.60 - 0.90	0.71	Blaine Fineness (m2/kg)	-	380
C ₃ S	-	61	Compressive Strength MPa (psi):		
C ₂ S	-	13	7 Day	-	4618
C ₃ A	-	9	28 Day	35 (5000) min	40.3 (5763)
C ₄ AF	-	7			

Optional Test Data

Chemical			Physical		
Item	Limit	Result	Item	Limit	Result
% Total Alkalies	-	0.37	Specific Gravity	-	2.92
%Cl (Chloride)	-	0.01	1 Day Accelerated (C-1073) psi	-	3068

Certification

Hanson Slag Cement GGBFS meets ASTM C-989 specification for Grade 100 or higher and Section 929-1 and 929-5 of FDOT Specifications

Dennis S. Thompson (Laboratory Manager)

VI. HEALTH HAZARD INFORMATION

Routes of Exposure and Effects:

Skin: Possible drying resulting in dermatitis.

Eyes: Mechanical irritant.

Inhalation: Acute (short term) exposure to dust levels exceeding the PEL may cause irritation of respiratory tract resulting in a dry cough.

Chronic (long term) exposure to airborne bentonite dust containing respirable size ($\leq 10 \mu$) quartz particles, where respirable quartz particle levels are higher than TLV's, may lead to development of silicosis or other respiratory problems. Persistent dry cough and labored breathing upon exertion may be symptomatic.

Ingestion: No adverse effects.

Permissible Exposure Limits: (for air contaminants)

OSHA PEL
(8hr. TWA)

ACGIH TLV

Bentonite as "Particulates not
otherwise regulated"
(formerly nuisance dust)

Total dust

15mg/m³

ND

Respirable dust

5mg/m³

ND

Crystalline Quartz (respirable)

0.1mg/m³

0.1mg/m³

Carcinogenicity: Bentonite is not listed by NTP or OSHA. IARC, 1997, concludes that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources (IARC Class 1), that carcinogenicity was not detected in all industrial circumstances studied and that carcinogenicity may depend on characteristics of the crystalline silica or on external factors affecting its biological activity.

Acute Oral LD₅₀: ND

Acute Dermal LD₅₀: ND

Aquatic Toxicology LC₅₀: ND

Emergency and First Aid Procedures:

Skin: Wash with soap and water until clean.

Eyes: Flush with water until irritation ceases.

Inhalation: Move to area free from dust. If symptoms of irritation persist contact physician. Inhalation may aggravate existing respiratory illness.

VII. HANDLING AND USE PRECAUTIONS

Steps to be Taken if Material is Released or Spilled: Avoid breathing dust; wear respirator approved for silica bearing dust. Vacuum up to avoid generating airborne dust. Avoid using water. Product slippery when wetted.

Waste Disposal Methods: Product should be disposed of in accordance with applicable local, state and federal regulations.

Handling and Storage Precautions: Use NIOSH/MSHA respirators approved for silica bearing dust when free silica containing airborne bentonite dust levels exceed PEL/TLV's. Clean up spills promptly to avoid making dust. Storage area floors may become slippery if wetted.

VIII. INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements: Mechanical, general room ventilation. Use local ventilation to maintain PEL's/TLV's.

Respirator: Use respirators approved by NIOSH/MSHA for silica bearing dust.

Eye Protection: Generally not necessary. Personal preference.

Gloves: Generally not necessary. Personal preference.

Other Protective Clothing or Equipment: None

IX. SPECIAL PRECAUTIONS

Avoid prolonged inhalation of airborne dust.

DEPARTMENT OF TRANSPORTATION INFORMATION

Shipping Name: NA (Not Regulated)

Hazard Class: NA

Hazardous Substance: NA

Cautionary Labeling: NA

Date Prepared: January 14, 2000

Doc #: 10100

All information presented herein is believed to be accurate, however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances. No warranty or guarantee, expressed or implied is made by WYO-BEN, INC. as to this information, or as to the safety, toxicity or effect of the use of this product.

Southern Environmental Sciences, Inc.

1204 North Wheeler Street □ Plant City, Florida 33563 □(813) 752-5014, Fax (813) 752-2475

October, 2012 Via Next Day Delivery

Florida Department of Environmental Protection
Receipts
3800 Commonwealth Blvd.
Mail Station 77
Tallahassee, FL 32399
Phone: (850) 921-9586

Re: Air General Permit Re-Registration for Concrete Batching Plant (CBP)
Current Permit No. 7770149-001-AG
Hayward Baker, Inc.
Headquarters Location: 6850 Benjamin Road, Tampa, FL 33634
Phone: (813) 884-3441

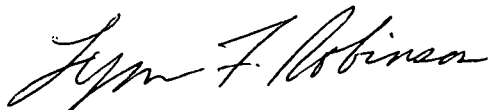
Gentlemen:

On behalf of Hayward Baker, Inc., Southern Environmental Sciences, Inc. (SES) is pleased to submit the enclosed Re-Registration information for the above referenced existing, previously permitted facility. Also enclosed is the \$100.00 fee check.

If you have any questions concerning the permit application please contact me at office phone (813) 752-5014 or email at: lrobinson@sesfla.com.

Sincerely,

SOUTHERN ENVIRONMENTAL
SCIENCES, INC.



Lynn Robinson, P.E.
Permitting Manager

Encl: CBP Re-Registration Form for 7770149 and \$100.00 fee check

Cc: Mr. Dean Elliott, Operations manager, Hayward Baker, Inc., Email: DAElliott@haywardbaker.com
Ms. Kelly Hamlett, Hayward Baker, Inc., Email: KAHamlett@haywardbaker.com

SES Project 12P314