DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

A649730647

FACILITY: Hanson Brick - Michigan Plant		**SRN / ID:** A6497
LOCATION: 3820 E. Serr Rd., CORUNNA		**DISTRICT:** Lansing
CITY: CORUNNA		**COUNTY:** SHIAWASSEE
CONTACT: Jerry Greger , Supervisor		**ACTIVITY DATE:** 07/24/2015
STAFF: Michelle Luplow	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Announced, scheduled partial compliance evaluation		
RESOLVED COMPLAINTS:		

Inspected by: Michelle Luplow
Personnel Present: Jerry Greger (jerry.greger@hanson.biz), Supervisor
Bill Stevens, Kiln Operator (bill.stevens@hanson.biz), Kiln fireman
Other relevant personnel: David McKeown (david.mckeown@hanson.biz)

Purpose: Conduct an announced, scheduled, partial compliance evaluation (PCE) inspection by determining compliance with Hanson Brick's ROP, MI-ROP-A6497-2010. This activity was done as part of a full compliance evaluation (FCE).

Facility Background/Regulatory Overview: Hanson Brick, according to J. Greger, is the only brick manufacturer in Michigan. Its on-site shale mining operation, located in Shiawassee County, produces shale used for brick manufacturing for residential construction, primarily purchased by Detroit distributors. A primary crusher crushes the raw material into an acceptable size for the grinding plant. The size is then further reduced by grinding the material down to an acceptable mesh size for the pug mixers and extruders. J. Greger said that Hanson's shale mining is conducted all year long.

J. Greger explained that prior to 2013, for 5 consecutive years, Hanson had shut down operations from April through the winter. Starting in 2013 Hanson has started to produce brick during the summer months again and are still doing so now.

Just prior to the 2014 inspection Hanson Brick was working on reinstalling their baghouse for Kiln 1. Previous to this, Kiln 1's roof had caved in, but has been repaired within the last year. Both Kiln 1 and its particulate control device are now functional, but J. Greger said there hasn't been enough demand to fire up Kiln 1 and speculated that Kiln 1 will not likely run the remainder of this year or next year. All brick-firing was done in Kiln 2 during the inspection.

Hanson Brick is a major source of SO_2 and PM_{10} and the HAP, HF. Sulfur from the bricks is released as SO_2 upon firing them in the kiln. The exhaust stream from the kilns is injected with lime to neutralize the SO_2 (as sulfuric acid) and any particulate generated (including lime particulate) is collected with fabric filters.

Hanson Brick is subject to the MACT JJJJJ (40 CFR 63, Subpart JJJJJ) for Brick and Structural Clay Products Manufacturing (BSCP), which has been vacated since June 18, 2007, as previously noted in the 2011 activity report by B. Culham. David McKeown, Regional Environmental Manager of Hanson Building Products based in South Carolina, said that he and other brick manufacturing businesses are working closely with the EPA to create a new MACT JJJJJ. Part of the process for proposing a new MACT JJJJJ involved EPA stack testing for various compounds, including hydrofluoric acid (HF), a HAP. D. McKeown said that the EPA stack tested for HF in 2010. I requested this new stack test from him, and it was reported in the stack test (attached in previous inspection report) that HF is emitted at 0.997 kg/hr or 0.138 kg/Mg of product. D. McKeown provided me with a Potential to Emit (PTE) calculation based on the 0.997 kg/hr. According to D. McKeown, Hanson's PTE for HF is 19.26 tons of HF per year for both kilns. I used D. McKeown's previous potential to emit (based on 271,560 tons of product fired in the kiln per year) to determine the potential to emit from this newer stack test to show that Hanson Brick is a major source of HAPS:

(0.138 kg HF/Mg product)*271,560 tons product = 37,475 kg HF/year *2.204 lbs/1 kg = (82,483 lbs HF/year)/2000 lbs ton^{-1} = **41 tons HF/year**

Through either calculation, based on EPA's stack test results, Hanson Brick is a major source of HAP (HF) and is therefore subject to the MACT JJJJJ once promulgated. Dennis Dunlap, AQD's Compliance Assurance Monitoring (CAM) specialist, explained that when the MACT JJJJJ is promulgated, some of the MACT requirements will replace the CAM conditions in the ROP that is currently being renewed.

Inspection: At approximately 10:00 a.m. on July 24, 2015 I met with J. Greger and B. Stevens. I had previously given J. Greger a DEQ "Environmental Inspections: Rights and Responsibilities" brochure during the June 2013 inspection.

EUCRUSHING
Hanson Brick has a material limit of 225,000 tons of material throughput in EUCRUSHING per 12-month rolling time period. During the last inspection the 12-month rolling totals had not been calculated; although monthly totals were being recorded.

During this inspection J. Greger showed me that Hanson Brick had completed the 12-month rolling records in an excel spreadsheet, which I viewed during the inspection. The 12-month rolling from July 2014 – June 2015 was 5010 tons. Hanson Brick is currently in compliance with their material limits at this time.

A fugitive dust control plan must be implemented and maintained according to Appendix 10:

Site Roadways/Plant Yard
J. Greger said water is still used for dust suppression. An old fire truck, with a capacity of 3,000 gallons of water, is used to spray all dirt roads within the plant. During the last inspection I noted (and made J. Greger aware of) a deficiency in water application records; no records had been kept. J. Greger has since kept water application records (see attached), which describe the date and areas watered at Hanson Brick. Water has been applied to the site roadways and plant yard at least once per month for this season.

The plan also requires that all paved roadways and the plant yards be swept as needed and any spillage on roads shall be cleaned up immediately. While onsite during the previous inspection I noted (and made J. Greger aware of) the many piles of finely crushed shale pushed off to the sides of the plant yard near the buildings and other process equipment. I mentioned to J. Greger during the last inspection that these are areas of concern that should be addressed, i.e. swept up, per the fugitive dust control plan. During the inspection J. Greger pointed out and showed me that all piles had been removed and the paved portions of the plant yard had been swept clean to come into compliance with the fugitive dust plan requirements.

Plant
Drop distances between transfer points must be kept at a minimum, but I observed no unenclosed transfer points within the plant during the inspection, thus this condition was not applicable.

Storage Piles – includes verification of compliance with ***EUSTORAGE*** conditions for open area stock piles
The stock piles are located near the crusher. A pay loader feeds from the pile to the crusher.

Storage piles must generate no more than 5% opacity. I saw no opacity generated from the storage piles during the inspection. J. Greger said that they've never had to water the storage piles because there is enough water in the material to keep the piles from releasing fugitive dust. I observed while onsite that the piles do appear to retain moisture.

Truck Traffic – includes verification of compliance with ***EUTRUCKTRAFFIC*** conditions for onsite transport of materials
There was no unloading/loading of trucks during the inspection, thus compliance with the requirement to properly load the trucks was not able to be determined.

For both EUSTORAGE and EUTRUCKTRAFFIC, Hanson is required to perform and record the results of a 6-minute visible emission observation at least once per calendar month. J. Greger said that he is not currently Method 9-certified, but if there is a problem he said that Hanson Brick's consultant, Bureau Veritas, has certified Method 9 readers that Hanson can call in the event a Method 9 is necessary. J. Greger keeps records of "Monthly Truck Traffic Visible Emissions" readings, and provided me with 5/25/15 and 6/29/15 VE readings (see attachment). These records also include the required VE readings from the Pit Road, Plant road/yard, and Storage piles, labeled #1, #2, #3, respectively, on the "Monthly Truck Traffic Visible Emissions" form. All recorded readings were 0% opacity for each 6-minute average. During the inspection I saw minimal, if any, opacity from truck traffic.

Hanson Brick is currently in compliance with all requirements under the Fugitive Dust Control Plan, as well as the conditions in EUTRUCKTRAFFIC and EUSTORAGE at this time.

Hanson is required to label all equipment using company ID numbers. J. Greger verified that there have been no additions, removals or modifications to the EUCRUSHING equipment since 2014 inspection. The following table was pulled from Hanson Brick's ROP, MI-ROP-A6497-2010:

Equipment Description	ID Number	Opacity Limit (Percent)	Control Device
Primary Crusher	462-76	15	N/A - None
Grinding Plant Feed Belt	No. 1	10	Equipment enclosure
Stedman Impact grinder	SGR-1	0	Enclosed in Building
Steadman Grinder exit belt	No. 7	0	Enclosed in Building
Elevator belt to screens	No. 8	0	Enclosed in Building
Screen feed/plow belt	No. 9	0	Enclosed in Building
	No. 10	0	Enclosed in Building

Equipment Description	ID Number	Opacity Limit (Percent)	Control Device
Finished belt under screens			
Finished short cross conveyor	No. 11	0	Enclosed in Building
First finished elevator conveyor	No. 12	0	Enclosed in Building
Second finished elevator conveyor	No. 13	0	Enclosed in Building
Finished shuttle car conveyor	No. 14	0	Enclosed in Building
Coarse return belt	No. 4	0	Enclosed in Building
Coarse return elevator belt	No. 5	0	Enclosed in Building
Coarse return short feed belt	No. 6	0	Enclosed in Building
Reclaimer system	REC-1	0	Enclosed in Building
Reclaimer conveyor belt	Belt A	0	Enclosed in Building
Belt to splitting tower	Belt B	0	Enclosed in Building
Leahy screen #1	Screen 1	0	Enclosed in Building
Leahy screen #2	Screen 2	0	Enclosed in Building
Leahy screen #3	Screen 3	0	Enclosed in Building
Leahy screen #4	Screen 4	0	Enclosed in Building
Simplicity Screen #5	Screen 5	0	Enclosed in Building
Simplicity Screen #6	Screen 6	0	Enclosed in Building

Per the previous inspection, all belt guards have the label numbers on them. I did not verify that each belt was labeled. The enclosed equipment was running during the inspection; however, there were no visible emissions from the building which encloses the majority of the operating equipment. The primary crusher and grinding plant feed belt have 15% and 10% opacity limits, respectively. There were no visible emissions from the primary crusher area nor the grinding plant feed belt which is an enclosed conveyor located on the outside of the building. The primary crusher (located underground) and grinding plant feed belt do not discharge to the ambient air. There are no exhaust stacks associated with the crushing operations, nor are there any ventilation fans installed on the building itself to allow for emissions to the ambient environment from the EUCRUSHING building.

The secondary crusher is equipped with a baghouse which exhausts to the in-plant environment.

A Method 9 observation is required to be conducted at least once per calendar month at the drop and transfer points for EUCRUSHING equipment. Each month, J. Greger said he does a Method 9 in the area near the crusher itself and at points

around the building in which the crushing equipment is enclosed. I asked J. Greger to provide me with a 1 month record. The "Monthly Grinding Emissions Evaluation" form (see attachment) performed on 6/29/15 by J. Greger shows a 0% opacity 6-minute average for the area near the crusher for drop points, transfer points, and doors/roof of building, which are labeled #1, #2, and #3 on the record sheet.

Hanson Brick is in compliance with all conditions under EUCRUSHING at this time.

EUPUG-90

The EUPUG-90 is equipment used to add color and texture to the brick, depending on the customer's requests. A pulse-jet baghouse is equipped to the mixer/extruder.

VE readings are required once per calendar month. J. Greger says he checks for opacity once per month and showed me the "Monthly dust collector pug 90 Visible Emissions" for 5/27/15 and 6/30/15. There was 0% opacity during each of the 6-minute observations for May and June. While onsite, I did not see any signs of opacity from this unit.

A record of repairs and maintenance on the baghouse collector semi-annually is also required. The ROP for EUPUG-90 does not require that records of the inspections of the baghouse itself be kept, only maintenance and repairs. The only repairs/maintenance that were conducted on the baghouse was replacing the bags on 10/13/13, as reported in the previous inspection.

Hanson Brick is in compliance with all conditions for EUPUG-90 at this time.

FGKILNS (KILN01, KILN02)

Kiln 2 is still the only kiln that is operating. Hanson Brick has restored Kiln 1, along with its baghouse, to operating condition, but the demand has not been great enough to fire up the second kiln.

Prior to the "green" bricks entering the tunnel kiln, they are placed in a 610°F dryer to remove moisture. This prevents the bricks from exploding in the kiln.

Hanson Brick keeps an electronic spreadsheet of the SO_2 emission calculations, as spelled-out in Appendix 7. I spoke on the phone with D. McKeown at length about Hanson Brick's emissions calculations spreadsheet. D. McKeown said that Hanson Brick produces standard-sized bricks and larger. Because of the variance in brick size, Hanson uses "brick equivalents" to calculate the brick tonnage using the brick weight determined during the monthly brick sulfur content test, which is then used in the Appendix 7 SO_2 emissions formula. The brick equivalents are noted as "SBE," or "standard brick equivalents," in the spreadsheet (see attached).

There is some confusion in Appendix 7 for how the hourly SO2 emission rate should be calculated (under item numbered "2"). Item 2 states the following, "To determine hourly SO2 emissions as averaged over a calendar month, use the most recent monthly average calculated release factor [R%], find the day with the highest throughput from the previous month, and then divide by the hours in that month to get an hourly average." Item 2 asks for an average over a calendar month, using only 1 day as the numerator, which would not produce a monthly average. This item will be addressed/clarified in the 2020 renewal.

There is an agreement between AQD and D. McKeown as of 9/10/15, that the hourly SO_2 emission rate should be calculated by taking the actual tonnage of bricks processed for the month, dividing the tonnage per month by the number of days operated in that month to get a daily "SD" ("SD" in Appendix 7 [lb/day SO_2 emissions]) and then dividing by the hours operated during that day (which is typically 24 hours). D. McKeown said that if this way of calculating SO2 emissions (rather than using the highest daily throughput) results in emissions that near the emission limit of 241 lbs/hr for both kilns combined, averaged over a calendar month, they will initiate conversations with AQD to discuss other options for calculating these emissions. For 2015 calculations the formulas had gotten jumbled so that there was overreporting of tonnage of monthly SO2 emissions, however D. McKeown has fixed the formulas in the spreadsheet and the spreadsheet should be correct going forward.

Emission Limits

Hanson Brick is limited to 241 lbs SO_2/hour (averaged over a calendar month) and 650 tons SO_2/calendar year. According to the 2014 MAERS report, 127 tons of SO_2 were emitted for 2014. According to Hanson Brick calculations, the total SO_2 emissions for January – June 2015 is 36 tons. The highest hourly SO_2 emissions for the past 12-month rolling period was 37 pounds per hour in July 2014. Hanson is currently in compliance with its SO_2 emission limits.

Process/Operational Restrictions

The kilns can only be operated if a Preventative Maintenance Program (PMP) has been implemented and is maintained. Hanson Brick's Preventative Maintenance Plan was originally drafted May 1, 2003. During the ROP renewal, Hanson Brick included an updated version of their PMP in the ROP renewal application. The new PMP is dated December 15, 2014. Michele Strickland, consultant, explained the following changes that were made to the PMP:

- Changes were made to how the responsible party was referenced to be consistent with the type of staff at the facility. Specifically: "Maintenance Engineer" was changed to "Maintenance" and "Electrical Supervisor" was changed to "Electrician". This impacts pages: 3, 4 & 5.

- Preventative Maintenance inspections for the Cooling Tower were changed from quarterly to semi-annual. The reduced inspection schedule is proposed because once they transitioned to gortex bags the Cooling Tower was no longer used. The gortex bags have a high temperature resistance and cool air works when needed, no water from the Cooling Tower is required. This impacts pages: 4, 8, & 9.

J. Greger said that the cooling tower is still being used, but it doesn't use water to cool the air anymore, because the gortex bags can withstand a higher heat. He said that Hanson Brick only has to bleed ambient air into the tower to cool down the process air to an acceptable temperature before it enters the baghouse. J. Greger said that the cooling water would erode the inside of the tower, which then required more inspections and maintenance to be done. Without the water there is less of a need for quarterly inspections of the tower. It is AQD's position, therefore, that semi-annual inspections of the cooling tower are acceptable. I provided J. Greger the updated version of the PMP that was submitted in the renewal application, and I will inform D. McKeown that the new PMP has been approved by AQD and can be officially implemented at Hanson Brick.

The PMP generally contains items to be monitored, corrective actions that can be taken in the event of abnormal operation, and what should be inspected and how often it should be inspected (daily, weekly, quarterly, semi-annually and bi-annually). J. Greger said that the Daily Inspection logsheet containing a checklist for the storage silo, bin activator, baghouse, piping leaks and insulation integrity for Kiln 2, is filled out daily by the kiln operator. I asked for one day from the month of June, which he provided (6-30-15). All inspection checks were okay. He also showed me the "Weekly Inspection" logsheet for the week of 6/22/15 on the blower filter, lime feed at duct insertion point of the conveying system, the blower filter and exhaust fan bearings for the baghouse, and the floor buildup for the cooling tower. All items were noted as "ok" condition.

The quarterly logsheets, which I asked for each quarter of 2014, were filled out in January, April and July of 2014. J. Greger could not find the 4th quarter for 2014, but I believed, based on all the other records he has kept, that he has done the 4th quarter inspection, but has only misplaced the 4th quarter inspection logsheet. All items listed in the quarterly logsheet were marked "ok" for the first 3 quarters of 2014 for kiln 2.

I requested "Semi-Annual Inspection" logsheets for the bin, feeder, baghouse and controls of the kiln for the past year. Semi-annual inspections were done in July 2014 and January 2015. All items were inspected and checked as being "ok" in condition.

"Bi-annual inspection" logsheets for the baghouse cleanliness and cooling tower should be conducted every other year. The last biannual inspection was conducted on 3/16/15. All items were marked as "ok" in condition.

Hanson Brick is in compliance with the PMP at this time.

Monitoring/Recordkeeping

B. Stevens said that all monitoring variables (date, time, cooling tower temperature, baghouse temperature, pressure drop and lime feed rate) are recorded before each cart of bricks charged into the kilns. The lime feed rate listed in the table below and in the "Firemen" sheet (attached) where Hanson records these parameters, is the speed rate of the lime controller, not the actual lbs/hr of lime being injected. I recommended to both B. Stevens and J. Greger that the "Firemen" records be updated to include the lb/hr lime rate that correlates to the speed rate of the lime controller. For the lime controller speed rate at 35 for June 1, 2015, B. Stevens said that the associated lime rate was 86 lb/hr. He said that as the lime tower empties it will vibrate more and the lime will flow faster, so he adjusts the speed rate down to 32 or 33 to maintain 86 lb/hr. And when the lime tower is being filled, B. Stevens said he adjusts the speed rate to 37 or 38 to maintain the 86 lb/hr rate of lime. As required in the permit, Hanson Brick uses the previous SO2 emissions data to calculate the present month's lime feed rate. For June 2015, the calculated lime feed rate is 31 lbs/hr. The rate used on 6/1/15 is more than sufficient to meet the calculated lime feed rate.

B. Stevens said the maximum number of carts they can get through the kiln in a day is 18, resulting in 18 records of monitoring variables per 24-hour day. The following table provides a snapshot of each variable taken during the inspection:

	2-6" H2O ?P	Temperature (°F)	Lime feed rate	Cooling Tower Temp (°F)	Bag Degradation Temp (°F)
Kiln 1	NA	NA	NA	NA	475 (alarm), 500 (bag deg temp)
Kiln 2	5.22	414	30	435	475 (alarm), 500 (bag deg temp)

Kilns must not be operated if the pressure drop across the kiln fabric filter is less than 2 inches H_2O or greater than 6 inches H_2O. A digital display (Hanson Brick refers to it as the "Pollution Control Device") continuously monitors the pressure drop across the fabric filter, with the acceptable operating range (2-6 inches H_2O) labeled (per request by B. Culham). An alarm should sound if the pressure drop exceeds 6 inches H_2O. B. Stevens explained that the pressure drop only exceeds 6 inches H_2O when the fan speed is increased to keep smoke out of the plant and that an alarm does sound when this occurs. Hanson is in compliance with the pressure drop requirement at this time. J. Greger said that Hanson now uses a USB to save all digitally monitored pressure drop data, that can be uploaded to a computer.

Kilns must also not be operated unless the temperature in each fabric filter collector is maintained 15°F below the bag degradation temperature (485 °F), and an alarm must sound if the temperature in the baghouse gets within 25 °F of the bag degradation temperature (475 °F) B. Stevens said that the temperature is also recorded continuously on an analog strip chart. During the inspection J. Greger said that the digital temperature monitor readout has had the tendency recently to show the temperature drop for a few seconds, but will come back up. This would have been a reportable CAM excursion, however, because Hanson Brick also utilizes the analog strip chart for recording temperature, Hanson Brick has met CAM monitoring requirements. The strip chart has shown that the temperature has remained constant during the times where the digital readout has said the temperature dropped. He said that he will let AQD know when the digital temperature readout has been fixed. According to J. Greger, Goretex bags were bought because they withstood higher temperatures. He said the degradation temperature for these bags is 500°F. B. Stevens said the exhaust from the kiln is sent through a gas cooling tower to drop the temperature of the gas before the gas enters the fabric filters. He also said the cooling tower alarm is set at 475°F and that if the cooling tower temperature reaches 450 °F the kiln operator has 30 minutes to bring the temperature down before the baghouse alarm sounds. B. Stevens said that if the temperature in the fabric filter collectors reaches 475°F, the alarm sounds, and the kiln exhaust and kiln shut down automatically, thus Hanson Brick is operating the kilns more than 15°F below the bag degradation temperature and is in compliance with this condition. J. Greger provided me with a 5/25/15 and 6/1/15 record of the monitoring variables. All reported pressure drops were around 5 in. H2O, none of the baghouse temperatures were above 410 °F, and the cooling tower temperatures were never above 430 °F. J. Greger said that Hanson now uses a USB to save all digitally monitored temperature data, that can be uploaded to a computer.

J. Greger enters into a spreadsheet (see attached, this spreadsheet was developed by D. McKeown) the number of days per month the kilns were run, the average number of cars sent through the kiln, the monthly brick equivalents sent through the kiln, the weight of each dry and burnt brick that is tested, the % sulfur from each dry and burnt brick tested. From there the spreadsheet calculates, the SO2 emissions on an hourly and 12-month rolling basis and the appropriate lime feed rate for a particular month. The lime feed rate also depends on the amount of cars sent through the kiln per day (the push rate). J. Greger provided me with a Lime Feed rate sheet for June and July 2015. The higher the number of cars per day, the greater the lime feed rate. J. Greger also says that whatever they determine the lime feed rate to be they will incorporate an additional 10% of lime to feed into the baghouse as a safety factor. B. Stevens said that for every cart of bricks that is sent through the kiln, the kilnmen do a hands-on lime feed rate check to ensure that the feed rate is accurate. B. Stevens said that for 30 seconds they will catch the lime in a bag, weigh the bag and then extrapolate the lbs per 30 seconds to lbs/hour. They then correlate this to the dial on the lime feed rate monitoring system. For example, "40" on the lime feed rate monitor during the inspection would equate to 66 lb/hr, according to B. Stevens. The lime feed rate calculations have been verified.

The permit requires that the hydrated lime feed rate is maintained at a rate that is determined monthly, based on the brick tests and the calculated sulfur released and also requires that the lime feed rate be monitored and recorded on a continuous basis. Hanson Brick is in compliance with this requirement.

Hanson Brick is also required by the ROP to conduct a Method 9 visible emissions test at least once per month during routine operating conditions of the kiln stacks. J. Greger showed me multiple examples of VE readings done on the kiln 2 stack specifically one conducted on 5/26/15 and on 6/29/15. The average opacity was 0% over the 6-minute interval for both. This satisfies the visible emission condition. I saw no opacity coming from the kiln stacks during the inspection.

Testing/Sampling
Hanson Brick is required to test one raw brick and one burnt brick at least once per month for sulfur content for use in hourly and yearly SO2 emission calculations. J. Greger provided me with % sulfur analytical results from Harrop Industries (see attachment) for 1 raw and 1 burnt brick tested on 4/15/15, 5/14/15, and 6/5/15. The results were used to calculate SO2 emissions for April, May and June brick firing. Hanson Brick is in compliance with this condition.

Hanson Brick is in compliance with all FGKILNS conditions at this time.

FGPLANT1
The FGPLANT1 consists of a paddle mixer, sand dryer system, 30 pug line (with small mixer and extruder), and a 50 pug line (with mixer and extruder). All of these processes are vented to the same control device: a wet cyclone separator which Hanson Brick refers to as a "Whirl Wet." J. Greger said this process does not operate all the time; it was not operating during the time of inspection. Hanson Brick is required to do Method 9 readings once per month. J. Greger provided me with copies of VE readings done on 5/27/15 and 6/30/15 – there was a 0% average opacity for the 6-minute interval (see attachment). I did not see any signs of opacity during the inspection. Hanson Brick is in compliance with this condition.

Hanson Brick is also required to record pressure drops across the wet dust collector/cyclone on a weekly basis. Also provided on the VE observation form are J. Greger's weekly pressure drop records. Pressure drop must be maintained between 7 and 9 in H_2O. None of the readings done by J. Greger were outside of these bounds.

Hanson Brick is in compliance with all FGPLANT1 conditions at this time.

FGPARTSWASHER
There are 3 cold cleaners (never heated) parts washers located onsite at Hanson Brick that J. Greger said are rented from Vesco Oil. Each of them holds approximately 25 – 30 gallons. Each parts washer tub is attached to a drum where the solvent is stored through a drain at the bottom of the wash tub (no chemicals are stored in the washer itself), which meets the design requirement of equipping the washer with a draining device.

Mineral spirits is still the cleaning solvent used in all 3 parts washers; according to the MSDS submitted to me by J. Greger, the only halogenated compound present is trace amounts (<0.1%) of tetrachloroethylene (perchloroethylene) (see attachment). According to the ROP, the cleaning solvents must not exceed 5% by weight of this compound. Hanson Brick is therefore in compliance with the material limits condition of the ROP for this emission unit.

J. Greger said that Vesco is the company who maintains the parts washers. The parts washers are also swapped out with other parts washers. The maintenance on the units is also performed by Vesco.

Each of the cold cleaners has an air/vapor interface of approximately 3.75 ft^2 (1.5 ft x 2.5 ft) and therefore meets the design requirement of not exceeding 10 ft^2 of air/vapor interface.

All 3 cold cleaners were equipped with lids. During the inspection all lids were closed on the units. Hanson Brick is in compliance with the requirement to keep lids closed when not in use.

Condition 3 of Monitoring/Recordkeeping in the ROP says that written operating procedures must be posted in an accessible, conspicuous location near each cold cleaner. During the inspection I verified that the Vesco Oil Cold Cleaner Operating Procedures were still in place for each of the units. Hanson Brick is in compliance with the operating procedure requirement.

Conditions 4 & 5 of the FGPARTSWASHER design/equipment parameters requires certain conditions be met depending on the Reid vapor pressure of the cleaning solvents. The Reid vapor pressures for trimethylbenzene and mineral spirits are 0.095 psia and 0.13 psia, respectively, according to Cameo Chemicals MSDS. Condition 4 requires mechanical assistance of the cover if the Reid vapor pressures are more than 0.3 psia. Hanson Brick is not required to have mechanical assistance based on the psia's.
Condition 5 requires certain conditions be met if the Reid vapor pressures are greater than 0.6 psia; the Reid vapor pressures are not, and therefore the conditions are not applicable.

Hanson Brick is currently in compliance with all state and federal requirements at this time.

For the inspector:
If you are going into the crushing/screening/belt conveying building it is recommended you ask Hanson Brick to provide one of their dust masks to you prior to entering. It is visibly dusty and it is recommended you not expose yourself to PM at those levels for any length of time.

NAME Michael McGlone DATE 9-15-15 SUPERVISOR 9/25/15