US SILICA COMPANY
3231 OCEANSIDE BLVD.
OCEANSIDE, CA

22 AUG 89

EQUIPMENT DESCRIPTION:

SAND FLUID BED DRYER WITH ANTIPOL WET TYPE AIR SCRUBBER AND PROCESS LINE (P/O P236 & 237)

I. PRODUCTION DATA

TIME	TONNAGE	TONS/HR	
11:53	103442.20	76	PORT B DATA*
12:04	103454.96	76	
12:07	103458.71	78	
12:10	103461.92	76	
12:33	103489.75	75	PORT C DATA
12:36	103492.77	79	
12:39	103496.12	78	
12:42	103499.60	75	
12:45	103503.46	74	
12:48	103507.51	79	
12:51	103510.50	70	
12:54	103514.50	75	PORT D DATA
12:57	103517.77	80	
1:00	103520.85	75	
1:03	103524.24	76	
1:06	103528.11	72	
1:09	103532.11	78	
Δ: 1.27 HRS	89.91 TONS	MEAN: 76 ± 2.6	PRODUCTION RATE (CALCULATED) 70.8 TONS/HR

* NOTE: PORT 'A' AND PARTIALLY PORT 'B' DATA NOT AVAILABLE DUE TO INSTRUCTION REQUIREMENTS OF NEW STAFF.

II. OPERATING TEMPERATURES (°F)

BROWN	RED	GREEN	PURPLE	MV (EXHAUST)
550	130	540	190	-.3 (AVG)
550	120	550	190	-.3
560	125	540	190	-.3
540	125	540	190	-.3
580	130	580	190	-.3
580	130	570	190	-.3
575	130	570	190	-.3
575	130	595	190	-.3
585	130	590	185	-.3
565	130	555	190	↓
570	130	560	190	↓
570	130	555	185	↓
570	130	560	190	↓
565	130	565	190	↓
580	130	590	185	↓
570	130	580	190	↓
575	130	585	185	
MEAN: 569	130	565	190	

* BURNER TEMP STEADY AT 180 – 200 °F
* NAT. GAS SUPPLIED DIRECTLY FROM SDGE (NO METER)

BROWN = UNDERGRID FRONT $T_{1,2,3}$
RED = ABOVE GRID $T_{4,5,6}$
GREEN = UNDERGRID BACK $T_{7,8,9}$
PURPLE = IN BED $T_{10,11,12}$

U.S. SILICA 23 AUG 89

① A TOTAL OF 4 OF THE POSSIBLE 6 PORTS WERE SAMPLED. A PORT CONSISTED OF 7 POINTS. THEREFORE, 28 POINTS INSTEAD OF 42 POINTS WERE SAMPLED. THE REASONS FOR THIS ARE:

(a) THE ONLY FUNCTIONAL PROBE WE HAVE IS 6 FOOT LONG (IDEAL).

(b) DUE TO THE LENGTH OF THE PROBE, ~~AND~~ THE HEIGHT OF THE PORTS, AND THE DESIGN OF THE RAILING, ACCESS TO THE RIGHT (TWO) PORTS WAS NOT POSSIBLE.

* FOR A DRAWING OF THIS SET UP SEE REPORT.

② SAMPLING TIME WAS 3.5 MINUTES PER POINT

③ SETTING UP FOR THIS TEST WAS DIFFICULT. THE "NEW" PORTS ARE 2.25" IN DIAMETER. NOTE THAT A 3 FOOT PROBE IS A MUST FOR THIS SITE. IT IS ALSO SUGGESTED THAT A PLANK (WOOD) OF APPROXIMATELY 60" BE USED FOR FUTURE TESTS. SEE SITE PHOTOS!

④ VISIBLE EMISSIONS RANGED FROM 0–10%

⑤ PROCESS WAS UTILIZING NATURAL GAS SUPPLY FROM SIDE (i.e. NO GAUGES FOR GAS FLOW).

(6) SITE HAS MASSIVE AMOUNTS OF FUGITIVE "EMISSIONS". THE SOURCES FOR THESE EMISSIONS ARE MAINLY FROM CONVAIR BELT TRAFFIC AND MISCELLANEOUS TRANSFER PROCESSES.

GEORGE MAZIS
ASSISTANT AIR POLLUTION CHEMIST

SDC APCD METHOD 5 LAB SHEET

SITE = U. S. Silica Test Date = 8-22-89

TEST # = 89234

VOLUMES

(1) IMPINGER VOLUMES

	final			initial			Δ
# 1	644.7	ml	-	539.4	ml	=	105.3
# 2	542.6	ml	-	540.0	ml	=	2.6
# 3	457.3	ml	-	456.2	ml	=	1.1
# 4	441.7	ml	-	441.3	ml	=	0.4

TOTAL VOLUME LIQUID COLLECTED = 109.4

comments: Impingers were weighed in gms. Used 1 gm/ml to convert to mls.
Rinses for front half and back half were combined.
Particulate was white and chalky.

(2) SOLVENTS ADDED DURING RECOVERY

ACETONE		WATER	
BKR ID =	69	BKR ID =	76
FRONT HALF WASH =	400 ml	FRONT HALF WASH =	410 ml
BACK HALF WASH =	ml	BACK HALF WASH =	ml
TRANSFER RINSE =	30 ml	TRANSFER RINSE =	32 ml
		IMPINGERS =	200 ml
total acetone =	430.0 ml	total water =	642.0 ml

* All data and calculations may be found on file at the San Diego County Air Pollution Control District.

11 Sept 89

SDC APCD METHOD 5 LAB SHEET

TEST # = 89234

STANDARD CONCENTRATIONS

volume Ac = 515 ml volume water = 1010 ml

ACETONE		WATER	
BKR ID =	70	BKR ID =	71
f:	50.9329 g	f:	49.4106 g
i:	50.9326 g	i:	49.4100 g
Δ:	0.0003 g	Δ:	0.0006 g

Limits:

limit for acetone is 7.9 µg/ml (7.9 * 10^-6 g/ml)
limit for water is 4 µg/ml (4 * 10^-6 g/ml)

The Acetone **PASSED** The Water **PASSED**

5.83E-07 g/ml 5.94E-07 g/ml

---

(3) CORRECTIONS- (volume used)*(std wt)

ACETONE		WATER	
FRONT HALF =	0.0002 g	FRONT HALF =	0.0002 g
BACK HALF =	0.0000 g	BACK HALF =	0.0000 g
BKR RINSES =	1.7476E-05 g	BKR RINSES =	1.901E-05 g

total grams from solvents = 0.0005 g