12/23/85

TO: Debbie Flood, EPA Region X
FROM: Bradley Harr, Idaho Hazardous Materials Bureau BDH.
SUBJECT: POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT

corrections made during 3-23-87 site visit. JMW

NAME: Monsanto-Soda Springs Plant HD= 6 ID# d081830994
LOCATION: T8S; R42E; Sec 31-32
CITY: Soda Springs STATE: ID ZIP: 83276

SITE DESCRIPTION AND HISTORY:

H1 Facility is an elemental phosphorus formulation plant using electric
H2 furnaces. Site is located within 2 miles of Soda Springs.Facility has been
H3 operating since 1952. The groundwater table exists at ~90 feet.The company
H4 has ~~7~~ monitor wells on-site. Soils are broken lava, some clays and basalt.
H5 Annual precipitation is ~20 inches per year. Hooper Spring is located
H6 1/2 mile to the west of the site boundary and ~~Little Spring Creek runs~~
H7 ~~through the site property towards Soda Springs.~~ Soda Springs uses ~~ground-~~
H8 ~~water~~ as their municipal source. Pop. is ~5,000 people.

check

ID# d081830994

WASTE SUMMARY:

W1 ~~23 drums~~ 32 tons of Vanadium pentoxide and some bagged asbestos,(generated from
W2 plant maintainance),is buried on-site. Spent solvents are recycled through
W3 Safety Klean Corp. Heavy metals, phosphorus, ~~fluorine~~ and other organics are
W4 all potential contaminants. Asbestos disposal site is clearly marked as
W5 per CFR 61.25.
W6

flouride

INSPECTION SUMMARY:

I1 09/25/85 William T. Hopkins - Health Dist.6.
I2 Spilled elemental phosphorus is mixed with dirt, drummed and shipped off-
I3 site to a premitted facility. Elevated fluoride levels observed in spring
I4 and domestic well off-site in 1983.~~No report of elevated concentrations in~~
I5 ~~monitor wells.~~ Non PCB contaminated treater oils are incinerated at 3000
I6 degrees C.

in past before installation of monwells

ID# d081830994

PRIORITY ASSESSMENT: PA low ; REASON: Further investigation needed.

R1 Soda Springs (pop.~5,000) within 2 miles of site. Potential for migration
R2 of fluoride and heavy metals to the groundwater. Integrity of lined ponds
R3 is unknown. It is also unknown if ponds have been lined since their
R4 inception. Stability of containment for buried materials is unknown.

OTHER COMMENTS:

C1 IDHW proposes to conduct a SI in FY 86.
C2 Beker gypsum pond spill in 1976 demonstrated a high fluoride content.
C3 See Beker Industries, ID# d000466888.
C4 Company groundwater data needs to be reviewed. Past disposal of solvents
C5 needs to be reviewed.
C6

POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT
PART 1 - SITE INFORMATION AND ASSESSMENT

ID/STATE: ID ID# d081830994

II. SITE NAME AND LOCATION

NAME: Monsanto - Soda Springs Plant LOCATION: T8S; R42E; Sec 31-32.
CITY: Soda Springs STATE: ID ZIP: 83276 CO: Caribou
LATITUDE: 42/41/22.3 LONGITUDE: 111/34/54.8 CO.CODE: 029 C.D: 02
DIRECTIONS1: 2 miles North of Soda Springs on Hwy 34; West side of Hwy.
DIRECTIONS2: T8S; R42E; Sec 31 (parts of Sections 29, 30, 32); see map.

III. RESPONSIBLE PARTIES

OWNERS: Monsanto Chemical Company OW/STREET: P.O. Box 816
OW/CITY: Soda Springs OW/STATE: ID OW/ZIP: 83276 OW/PHONE: 208-547-3391

OPERATOR: same as owner OP/STREET: _____
OP/CITY: _____ OP/STATE: __ OP/ZIP: _____ OP/PHONE: _____

TYPE/OWNERSHIP: A.PRIVATE: (X) B.FED/AGENCY: (_)_____ C.STATE: (_)
D.COUNTY: (_) E.MUNICIPAL: (_)
F.OTHER/ID: (_)_____ G.UNKNOWN: (_)

OP/NOTIFICATION: A.RCRA: (_) RCRA.DATE:
B.CERCLA: (X) CERCLA.DATE: 06/09/81 C.NONE: (_)

ID# d081830994

IV. CHARACTERIZATION OF POTENTIAL HAZARD

SITE/INSPECT: yes IF YES THEN INSPECT/DATE: 09/25/8~~5~~4
INSPECT/BY: William T. Hopkins - Health Dist.6.
SITE/STATUS: active YEARS/OPER: (BEGIN/END) 1952/active UNK: (_)

SUBSTANC: Plant manufactures elemental phosphorus. ~~23 drums~~ 32 tons of Vanadium pent-
DESCRIP2: oxide buried on-site in 1976. Asbestos bagged and landfilled on-
DESCRIP3: site. Spent solvents sent to Safety Kleen for reclaimation. Treater
DESCRIP4: oil incinerated on-site. Records of PCB oil treatment need review.

HAZARDS1: Elemental phosphorus spilled during rehab. of furnaces and pumping
DES/HAZ2: equipment. Elevated fluorine noted in monitor wells and domestic
DES/HAZ3: well off-site. Potential for ground water contamination with heavy
DES/HAZ4: metals, fluorine and phosphorus. Potential for direct contact.

ID# d081830994

V. PRIORITY ASSESSMENT

PRIORITY FOR INSPECTION: A.HIGH: (_) B.MED: (_) C.LOW: (X) D.NONE: (_)

VI. INFORMATION AVAILABLE FROM

CONTACT: William Hopkins CON/AGENCY: Health Dist 6 CON/PHONE 208-233-9080
ASSESSOR: BD Harr-SL Lund AS/AGENCY: IDHW AS./PHONE 208-334-2427
AS/ORGANIZATION: Div. of Envir. AS/DATE: 07/10/85

PART 2 - WASTE INFORMATION

ID# d081830994

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

PHYSICAL STATES				QUANITY		WASTE CHARACTERISTICS					
A.SOLID	(X)	E.SLURY	( )	TONS :	?	A.TOXIC	(X)	E.SOLUB	(X)	I.HIVOL	( )
B.POWDR	( )	F.LIQUD	(X)	YARD3:	?	B.CORRO	( )	F.INFEC	( )	J.EXPLO	( )
C.SLUDG	( )	G.GAS	( )	#DRUM:	?	C.RADIO	( )	G.FLAMM	( )	K.REACT	(X)
D.OTHER	(X)	contam.soil				D.PERST	(X)	H.IGNIT	( )	L.INCOM	( )
										M.NA	( )

III. WASTE TYPE

CATEGORY/SUBSTANCE NAME	GROSS AMOUNT	UNIT OF MEASURE	COMMENT
SLU / SLUDGE	SL.AMT _____	SL.UNT _____	SL.COM _____
OLW / OILY WASTE	OL.AMT _____	OL.UNT _____	OL.COM _____
SOL / SOLVENTS	SO.AMT ?	SO.UNT ?	SO.COM _____
PSD / PESTICIDES	PS.AMT _____	PS.UNT _____	PS.COM _____
OCC / OTHER ORGANICS	OO.AMT _____	OO.UNT _____	OO.COM _____
IOC / INORGANIC CHEMICAL	IC.AMT 23	IC.UNT drums	IC.COM Vanadium catalyst
ACD / ACIDS	AC.AMT _____	AC.UNT _____	AC.COM
BAS / BASES	BA.AMT _____	BA.UNT _____	BA.COM _____
MES / HEAVY METALS	ME.AMT ?	ME.UNI ?	ME.COM slag pile

ID# d081830994

IV. HAZARDOUS SUBSTANCES

1-CATEGO		2-SUBSTANCE NAME	3-CAS NUMBER	4-STOR/DISP	5-CONC/MEASURE
H11	IOC	H12 VanadiumPentoxide	H13: 1314-62-1	H14 landfilled	H15: unknown
H21	IOC	H22 Asbestos	H23: _____	H24 " on-site	H25: unknown
H31	___	H32 _____	H33: _____	H34 _____	H35: _____
H41	___	H42 _____	H43: _____	H44 _____	H45: _____
H51	___	H52 _____	H53: _____	H54 _____	H55: _____
H61	___	H62 _____	H63: _____	H64 _____	H65: _____
H71	___	H72 _____	H73: _____	H74 _____	H75: _____
H81	___	H82 _____	H83: _____	H84 _____	H85: _____
H91	___	H92 _____	H93: _____	H94 _____	H95: _____

SEE ADDITIONAL SHEETS IF CHECKED HERE more: (_)

ID# d081830994

V. FEEDSTOCKS

FEEDSTOCK NAME	CAS NUMBER	FEEDSTOCK NAME	CAS NUMBER
FDS1 _____	CAS1: _____	FDS5 _____	CAS5: _____
FDS2 _____	CAS2: _____	FDS6 _____	CAS6: _____
FDS3 _____	CAS3: _____	FDS7 _____	CAS7: _____
FDS4 _____	CAS4: _____	FDS8 _____	CAS8: _____

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

ID# d081830994

II. HAZARDOUS CONDITIONS AND INCIDENTS **********

A.GROUNDWATER: (X) A.OBSERVED: (X) A.OB.DATE: 08/12/83
A.POP/AFFECTED: ~5,000 A.POTENTIAL: (_) A.ALLEGED: (_)
A.NARRATIVE: Fluoride contamination in private well and spring (6.67ppm).Other
A.NAR1 contaminant levels not reported. 7 monitor wells on-site. Review
A.NAR2 needed. Beker spill also a potential source of fluoride contam.
A.NAR3 See Beker Industries ID# d000466888.Further investigation needed.

****

B.SURFACE.WATER: (X) B.OBSERVED: (_) B.OB.DATE:
B.POP/AFFECTED: ---------- B.POTENTIAL: (X) B.ALLEGED: (_)
B.NARRATIVE: Creek runs through eastern portion of site. Proximity of landfill
B.NAR1 areas is unknown. Potential for impact through contamination of
B.NAR2 groundwater and springs. Potential for runoff has not been
B.NAR3 addressed. Further investigation and sampling needed.

****

ID# d081830994

C.CONTAM.AIR: (X) C.OBSERVED: (_) C.OB.DATE:
C.POP/AFFECTED: ---------- C.POTENTIAL: (X) C.ALLEGED: (_)
C.NARRATIVE: Facility has State Air Pollution Permit. Procedures include
C.NAR1: incineration of treater oils at a temp. of 3,000 C. Fluoride
C.NAR2: emissions and TSP values (fugitive dust) have been a problem in
C.NAR3: the past.

****

D.FIRE/EXPLOS: (X) D.OBSERVED: (_) D.OB.DATE:
D.POP/AFFECTED: ---------- D.POTENTIAL: (X) D.ALLEGED: (_)
D.NARRATIVE: Elemental phosphorus is reactive when exposed to air. Phosphorus
D.NAR1: spills are mixed with dirt, drummed and shipped to the Columbia
D.NAR2: Tn. plant.
D.NAR3:

****

E.DIR/CONTACT: (X) E.OBSERVED: (_) E.OB/DATE:
E.POP/AFFECTED: ---------- E.POTENTIAL: (X) E.ALLEGED: (_)
E.NARRATIVE: Concern is primarily for workers. Potential for burns through
E.NAR1: direct contact with elemental phosphorus. Potential for direct
E.NAR2: contact with spent solvents and asbestos has not been addressed.
E.NAR3:

****

ID# d081830994

F.CONTAM.SOIL: (X) F.OBSERVED: (_) F.OB/DATE:
F.AREA.AFFECTED ---------- F.POTENTIAL: (X) F.ALLEGED: (_)
F.NARRATIVE: Integrity of lined ponds is unknown. Unlined ponds used in the
F.NAR1: past. Potential for elevated fluoride and heavy metals. Vanadium
F.NAR2: Pentoxide drummed and buried on-site. Asbestos bagged and buried
F.NAR3: on-site. Review of past PCB handling needed.

****

G.DRK.H20.CONT: (X) G.OBSERVED: (X) G.OB/DATE:
G.POP/AFFECTED: ---------- G.POTENTIAL: (_) G.ALLEGED: (_)
G.NARRATIVE: Spring and off-site domestic well demonstrated elevated levels of
G.NAR1: fluoride. Difinitive link between site and contaminated ground
G.NAR2: water has not been established. Potential for migration of heavy
G.NAR3: metals to groundwater. Further investigation and sampling needed.

****

PART 3 - CONTINUED

ID# d081830994

H.WORKER.EXPOS: (X) H.OBSERVED: ( ) H.OB/DATE:
H.WRK.POT.AFFC: ---------- H.POTENTIAL: (X) H.ALLEGED: ( )
H.NARRATIVE: Potential for worker exposure is inherent to industry. Workers
H.NAR1: are usually aware of the hazards. Potential for direct contact
H.NAR2: with elemental phosphorus.
H.NAR3:

****

I.POPULA.EPOSU: (X) I.OBSERVED: ( ) I.OB/DATE:
I.POP.AFFECTED: ---------- I.POTENTIAL: (X) I.ALLEGED: ( )
I.NARRATIVE: Potential exists through the potential for groundwater
I.NAR1: contamination with heavy metals and fluoride.
I.NAR2: Further investigation and sampling needed.
I.NAR3:

****

J.DAMAGE.FLORA: ( ) J.OBSERVED: ( ) J.OB/DATE:
J.POTENTIAL: ( ) J.ALLEGED: ( )
J.NARRATIVE:
J.NAR1: N/A
J.NAR2:
J.NAR3:

****

ID# d081830994

K.DAMAGE.FAUNA: ( ) K.OBSERVED: ( ) K.OB/DATE:
K.POTENTIAL: ( ) K.ALLEGED: ( )
K.NARRATIVE:
K.NAR1: N/A
K.NAR2:
K.NAR3:

****

L.CONTAM.FD.CHN: ( ) L.OBSERVED: ( ) L.OB/DATE:
L.POTENTIAL: ( ) L.ALLEGED: ( )
L.NARRATIVE:
L.NAR1: N/A
L.NAR2:
L.NAR3:

****

M.UNSTABLE.CON: (X) M.OBSERVED: ( ) M.OB/DATE:
M.POP.AFFECTED: ---------- M.POTENTIAL: (X) M.ALLEGED: ( )
M.NARRATIVE: Potential for migration of heavy metals from slag pile exists.
M.NAR1: Migration to ground water would be considered unstable
M.NAR2: containment. Integrity of Vanadium Pentoxide and Asbestos
M.NAR3: containment is unknown. Integrity of pond lining is unknown.

****

ID# d081830994

N.DAMAGE.OFFSI: ( ) N.OBSERVED: ( ) N.OB/DATE:
N.POTENTIAL: ( ) N.ALLEGED: ( )
N.NARRATIVE:
N.NAR1: N/A
N.NAR2:
N.NAR3:

****

O.CONTAM.WWTP: ( ) O.OBSERVED: ( ) O.OB/DATE:
O.POTENTIAL: ( ) O.ALLEGED: ( )
O.NARRATIVE:
O.NAR1: N/A
O.NAR2:
O.NAR3:

****

ID# d081830994

P.ILLEGAL/DUMP: (_) P.OBSERVED: (_) P.OB/DATE:
P.POTENTIAL: (_) P.ALLEGED: (_)

P.NARRATIVE:
P.NAR1: N/A
P.NAR2:
P.NAR3:

****

DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS:
OTHER.HAZARD: The local silty soil,(Bancroft silt loam), does not make a very
OTHER.HAZ1: good sealant.
OTHER.HAZ2:
OTHER.HAZ3:
OTHER.HAZ4:
OTHER.HAZ5:

****

III. TOTAL POPULATION POTENTIALLY AFFECTED TOTAL.POP: _____

ID# d081830994

IV. COMMENTS**********

COMMENT1: Site is an elemental phosphorus production facility via electric
COMMENT2: furnace. Lined ponds contain waste liquids.Unlined ponds used in the
COMMENT3: past. Spent solvents sent to Safety Kleen for reclaimation. 23 drums
COMMENT4: of Vanadium pentoxide buried on-site. Spilled phosphorus drummed and
COMMENT5: shipped to Columbia Tn. Asbestos from plant maintainance bagged and
COMMENT6: buried on-site. 7 monitor wells on-site.Off-site spring and domestic
COMMENT7: well showed elevated fluoride concentrations. Potential exists for
COMMENT8: heavy metals and fluoride migration to groundwater (depth ~90 feet).
COMMENT9: Further investigation and sampling needed.

V. SOURCES OF INFORMATION**********

SOURCE1: IDHW HMB's RCRA and ERRIS files. IDHW Water Quality Bureau files.
SOURCE2: William Hopkins - Health Dist 6.
SOURCE3: Bradley Harr; Scott L. Lund - IDHW HMB.
SOURCE4: Daryl Koch - IDHW HMB.
SOURCE5:

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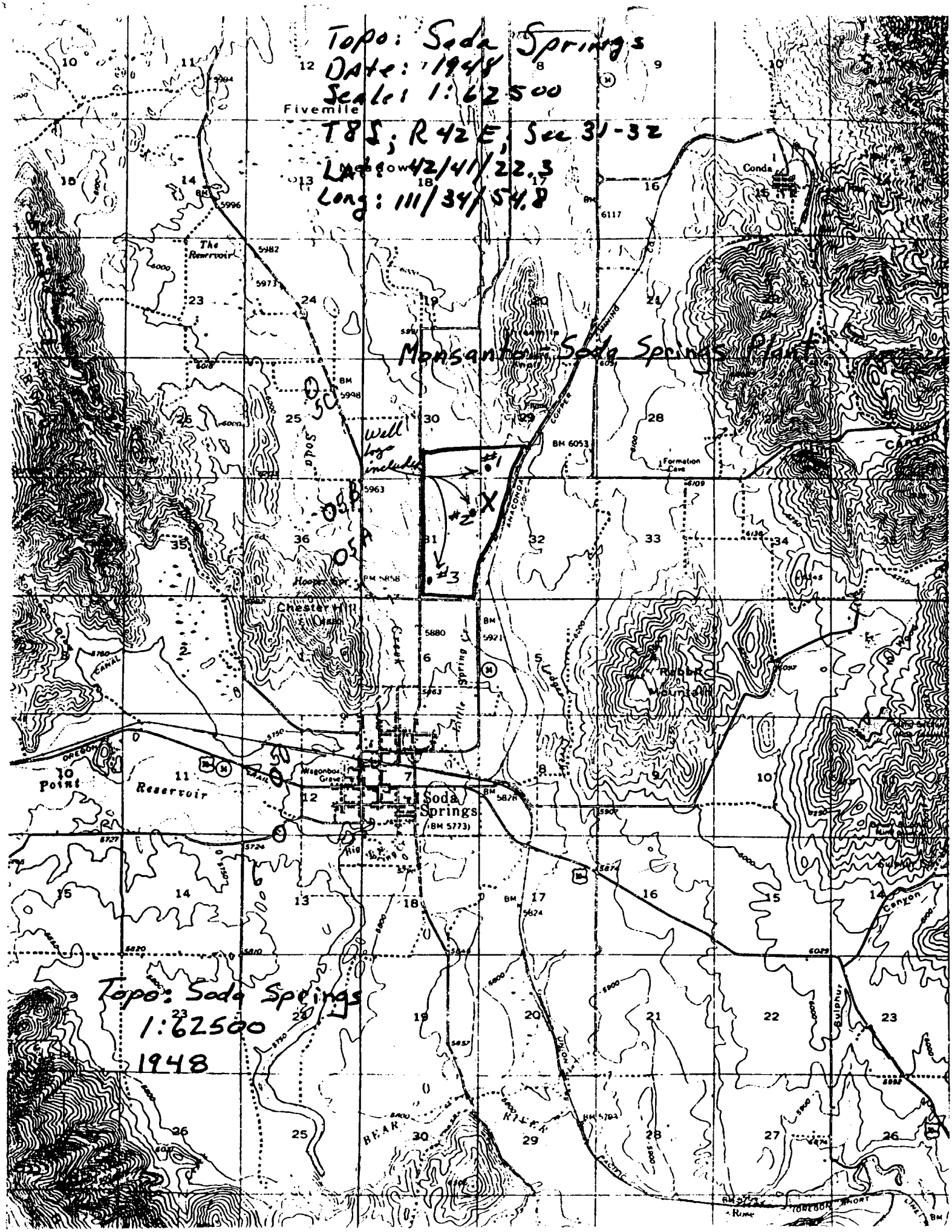
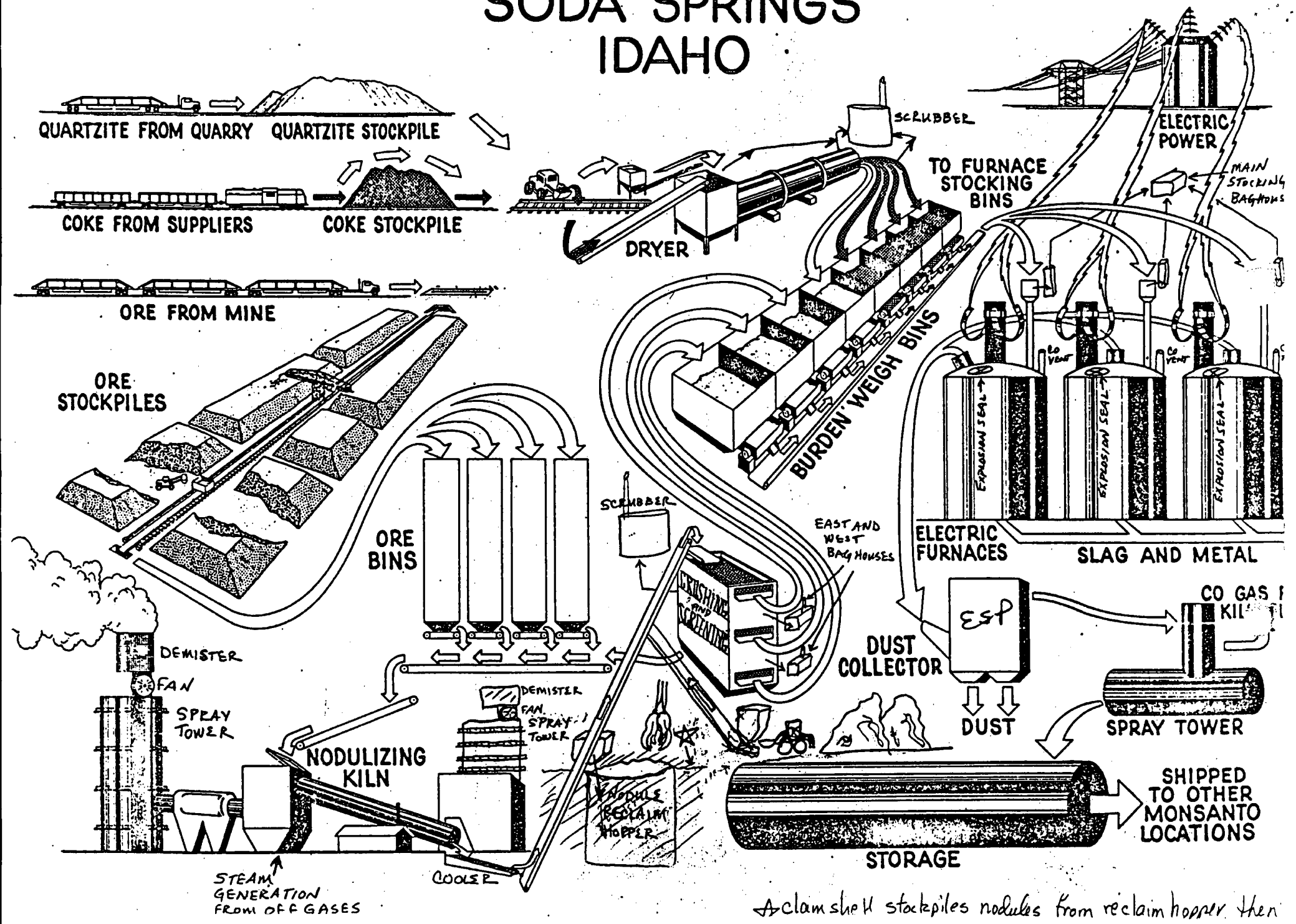
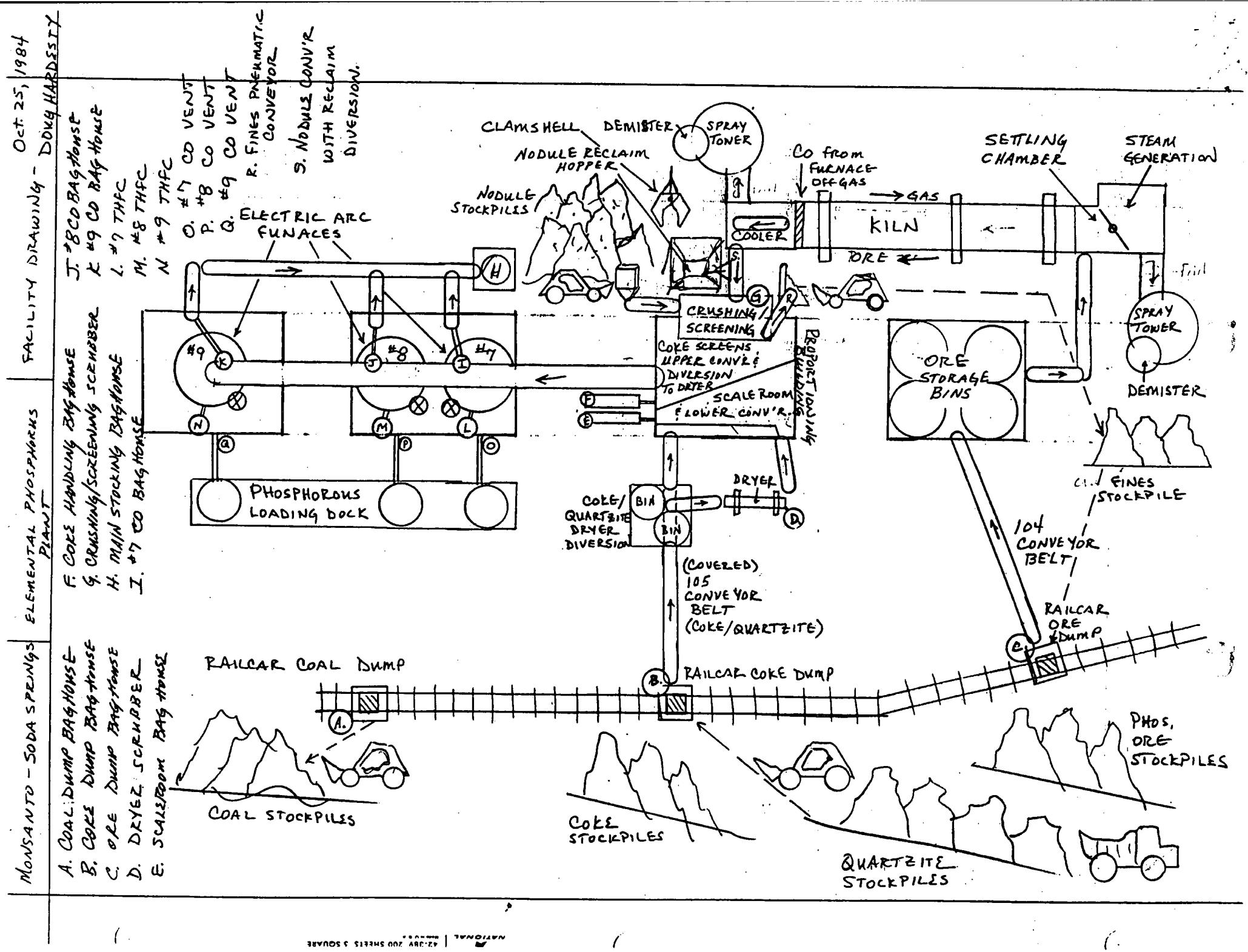

Topo: Soda Springs
Date: 1948
Scale: 1:62500
T8S; R42E, Sec 31-32
Lat: 42/41/22.3
Long: 111/34/54.8
Monsanto Soda Springs Plant
well log included
#1
#2
#3
Fivemile
The Reservoir
Conda
Formation Cave
Chester Hill
Hooper Spr.
Rabbit Mountain
Point
Reservoir
Wagonbox Grave
Soda Springs
(BM 5773)
Topo: Soda Springs
1:62500
1948

SODA SPRINGS IDAHO



A clamshell stockpiles nodules from reclaim hopper then


MONSANTO - SODA SPRINGS
A. COAL DUMP BAGHOUSE
B. COKE DUMP BAGHOUSE
C. ORE DUMP BAGHOUSE
D. DRYER SCRUBBER
E. SCALEROOM BAG HOUSE
ELEMENTAL PHOSPHORUS PLANT
F. COKE HANDLING BAGHOUSE
G. CRUSHING/SCREENING SCRUBBER
H. MAIN STOCKING BAGHOUSE
I. #7 CO BAGHOUSE
J. #8 CO BAGHOUSE
K. #9 CO BAGHOUSE
L. #7 THFC
M. #8 THFC
N. #9 THFC
O. #7 CO VENT
P. #8 CO VENT
Q. #9 CO VENT
R. FINES PNEUMATIC CONVEYOR
S. NODULE CONV'R WITH RECLAIM DIVERSION.
FACILITY DRAWING - DOUG HARDESTY
Oct. 25, 1984
RAILCAR COAL DUMP
RAILCAR COKE DUMP
RAILCAR ORE DUMP
COAL STOCKPILES
COKE STOCKPILES
QUARTZITE STOCKPILES
PHOS. ORE STOCKPILES
PHOSPHOROUS LOADING DOCK
ELECTRIC ARC FURNACES
NODULE STOCKPILES
CLAMSHELL
DEMISTER
SPRAY TOWER
NODULE RECLAIM HOPPER
CO from FURNACE OFF-GAS
GAS
KILN
COOLER
ORE
SETTLING CHAMBER
STEAM GENERATION
CRUSHING/SCREENING
COKE SCREENS
UPPER CONV'R DIVERSION TO DRYER
SCALE ROOM FLOWER CONV'R.
PROPORTIONING BUNKERS
ORE STORAGE BINS
DEMISTER
FINES STOCKPILE
DRYER
COKE/QUARTZITE DRYER DIVERSION
BIN
BIN
(COVERED) 105 CONVEYOR BELT (COKE/QUARTZITE)
104 CONVEYOR BELT