Chemical Inventory Requirements

Williams Implementation of COGCC Rule 205

January 21, 2010

Williams

January 21, 2010

Compliance

- History
- Disclaimer

Williams

COGCC Rule 205

- Operators shall:

  a. Make and keep appropriate books and records.

  b. Maintain MSDS sheets for all chemicals brought to a well site for use downhole during drilling, workover, and completion.

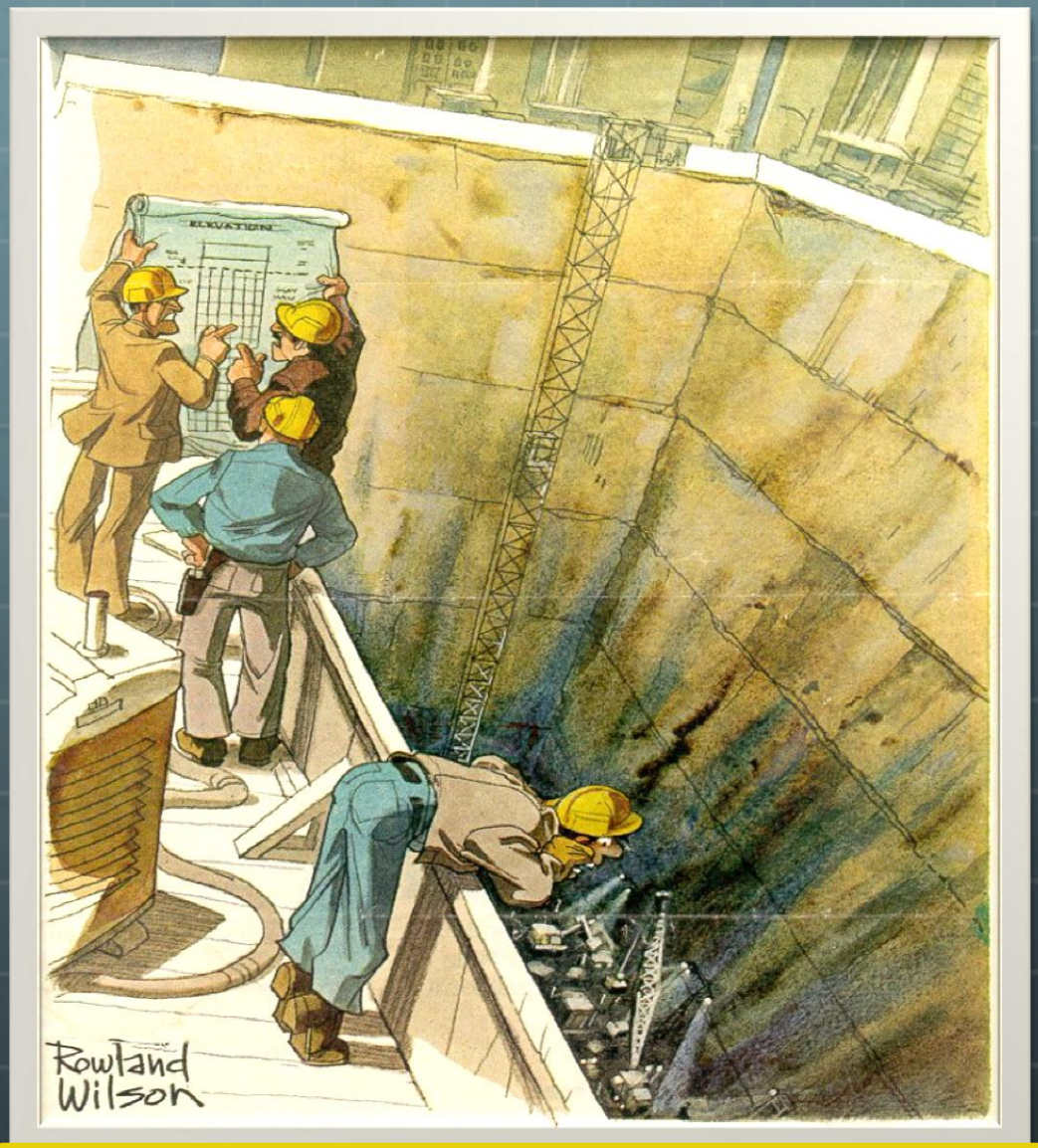
  c. Maintain a chemical inventory by wellsite for each chemical product and stored fuel used downhole or stored for use downhole during drilling, workover, and completion for anything exceeding 500 pounds in a quarter.

COGCC Rule 205 (cont.)

- Operators shall:

  f. Keep these records on file for the life of the well plus 5 years after abandonment.

  Supply the Colorado Commission with quarterly inventory data within three business days of the request in readily viewable format.



"Stop digging! The plans were upside down!"

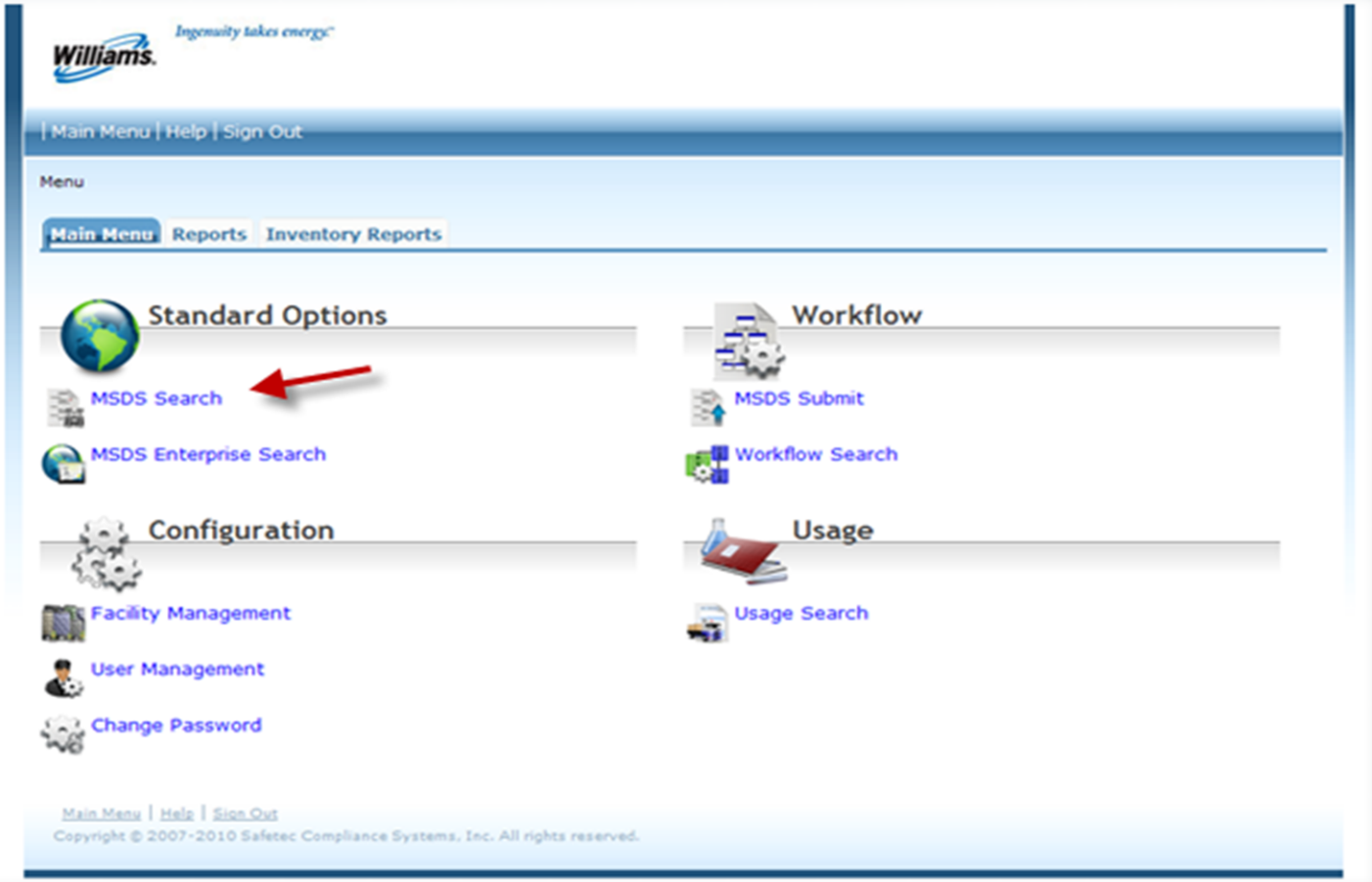
Williams

January 21, 2010

MSDS Workflow Process

- Williams has selected Safetec to manage and retain the MSDS used in the basins.
- Workflow steps:
  - Request new MSDS
  - MSDS is reviewed by Environmental, Safety, and Operations personnel
  - MSDS is approved (or rejected) for use in the field
- MSDS is added to Safetec.
- Chemical name is added to Open Wells pick list.

MSDS Search


Williams
Ingenuity takes energy
| Main Menu | Help | Sign Out
Menu
Main Menu
Reports
Inventory Reports
Standard Options
MSDS Search
MSDS Enterprise Search
Workflow
MSDS Submit
Workflow Search
Configuration
Facility Management
User Management
Change Password
Usage
Usage Search
Main Menu | Help | Sign Out
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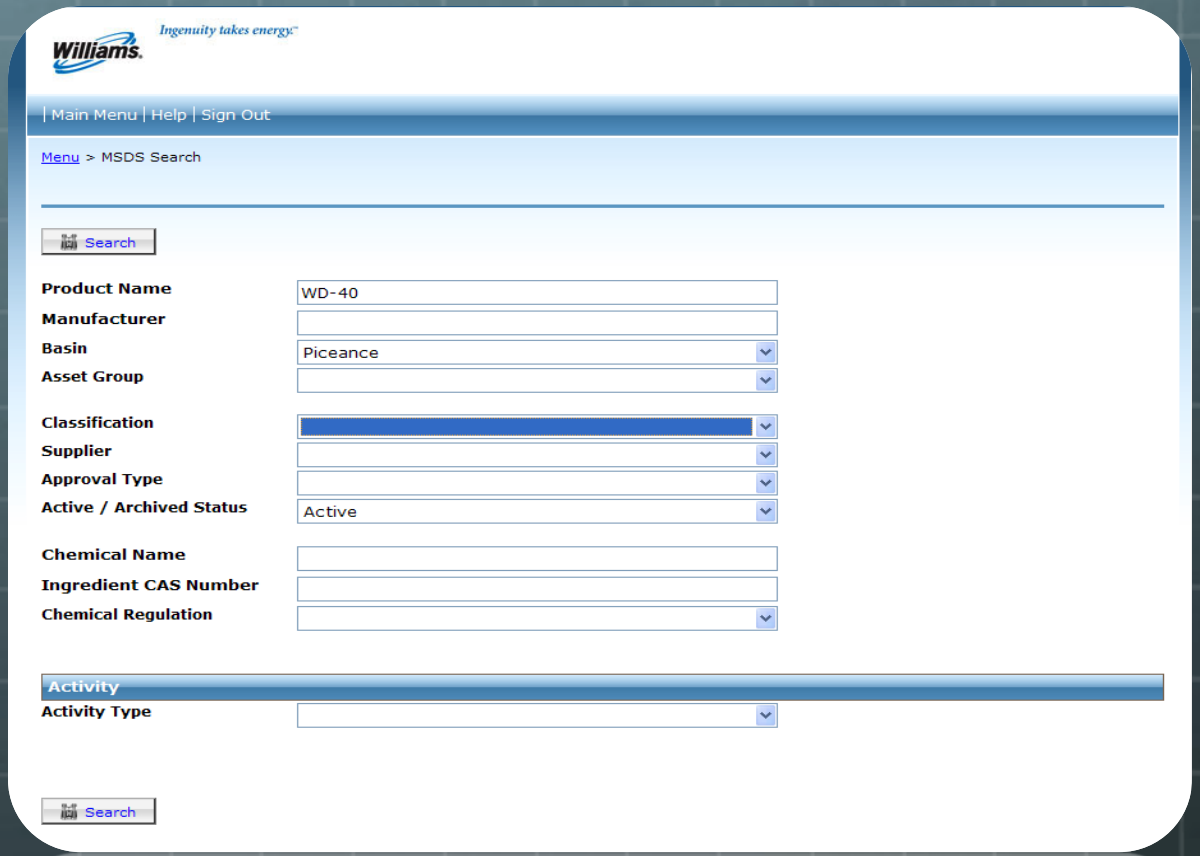
MSDS Search (cont.)



MSDS Search (cont.)

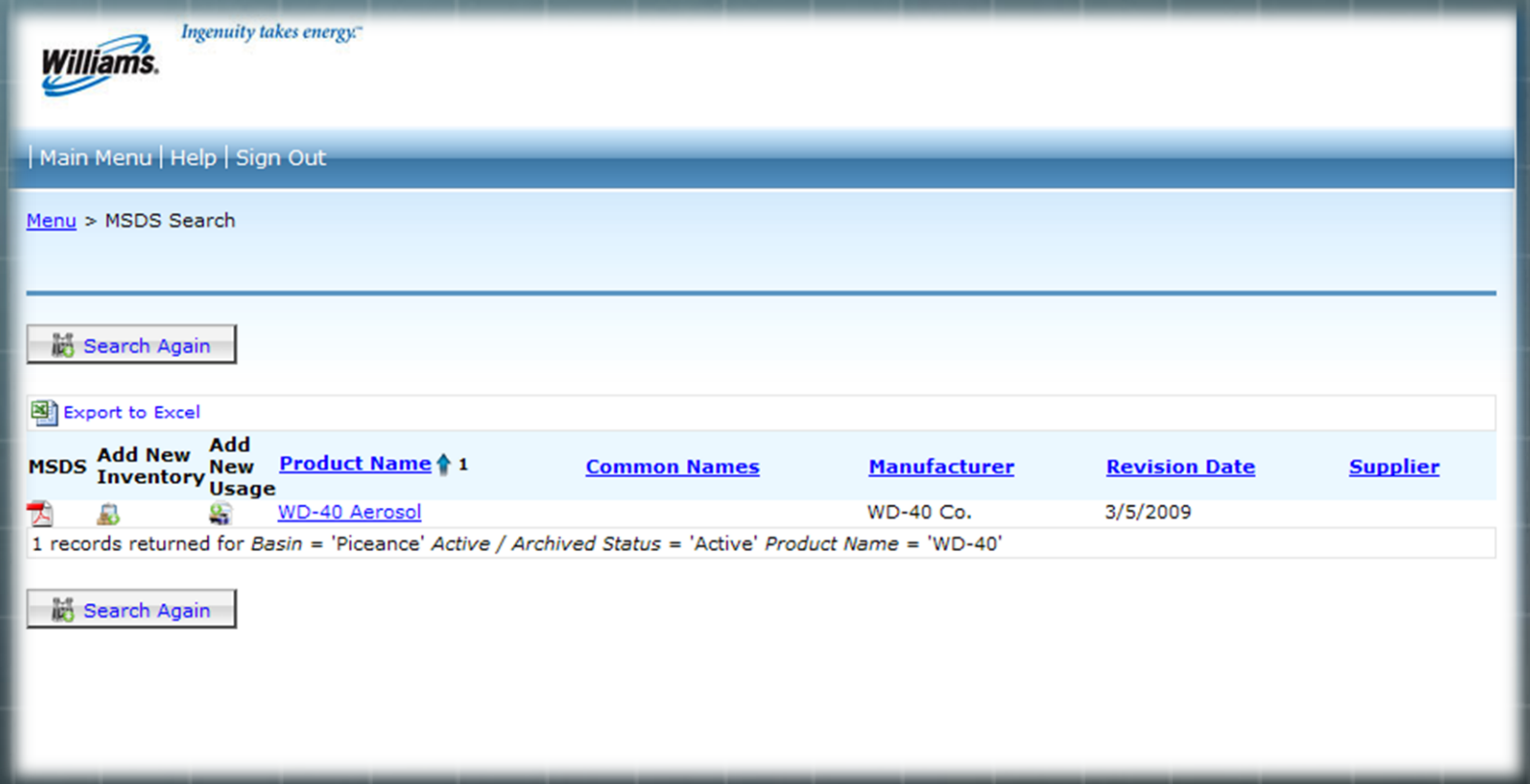


Diagram of Piceance data flow

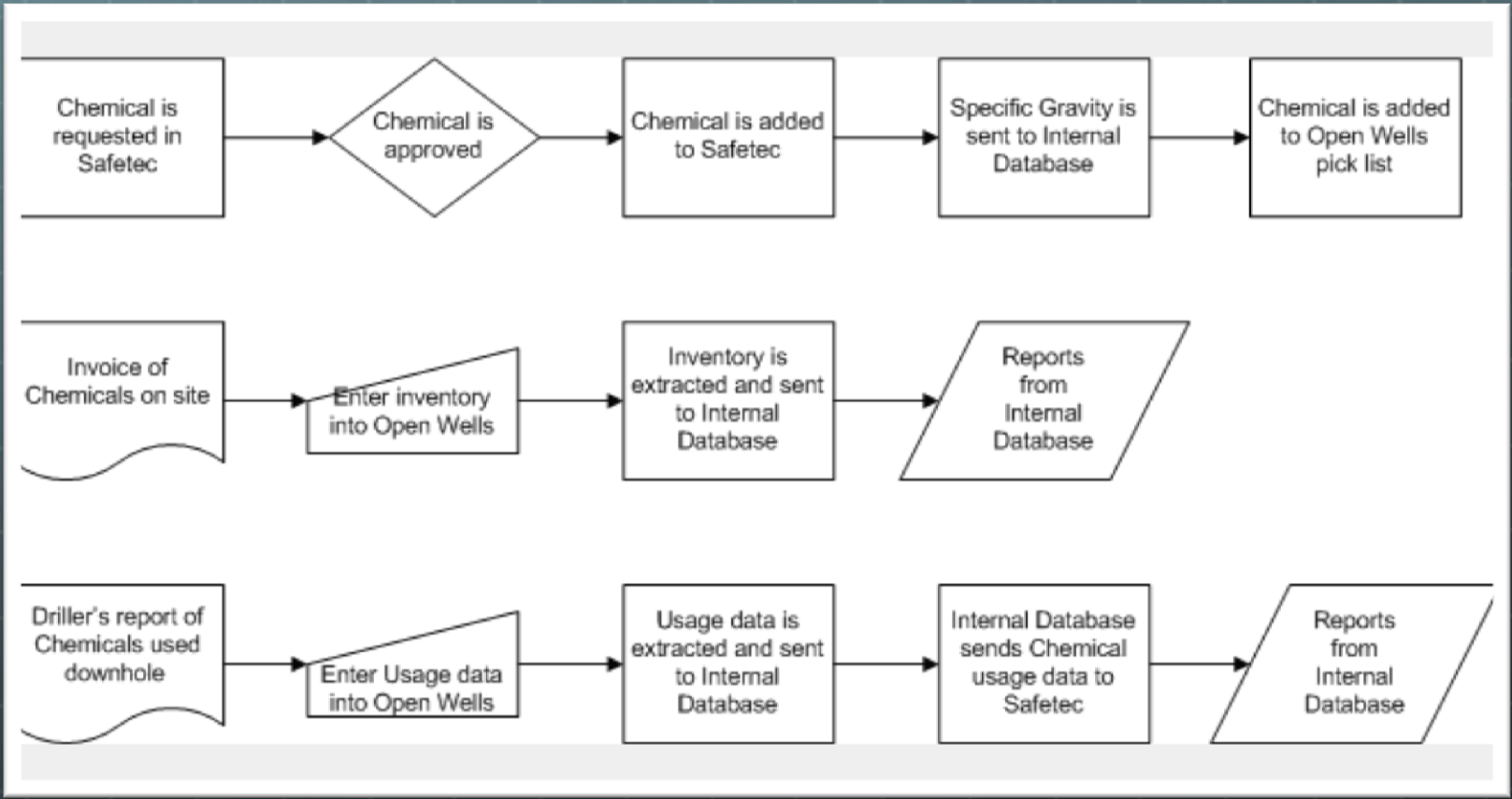
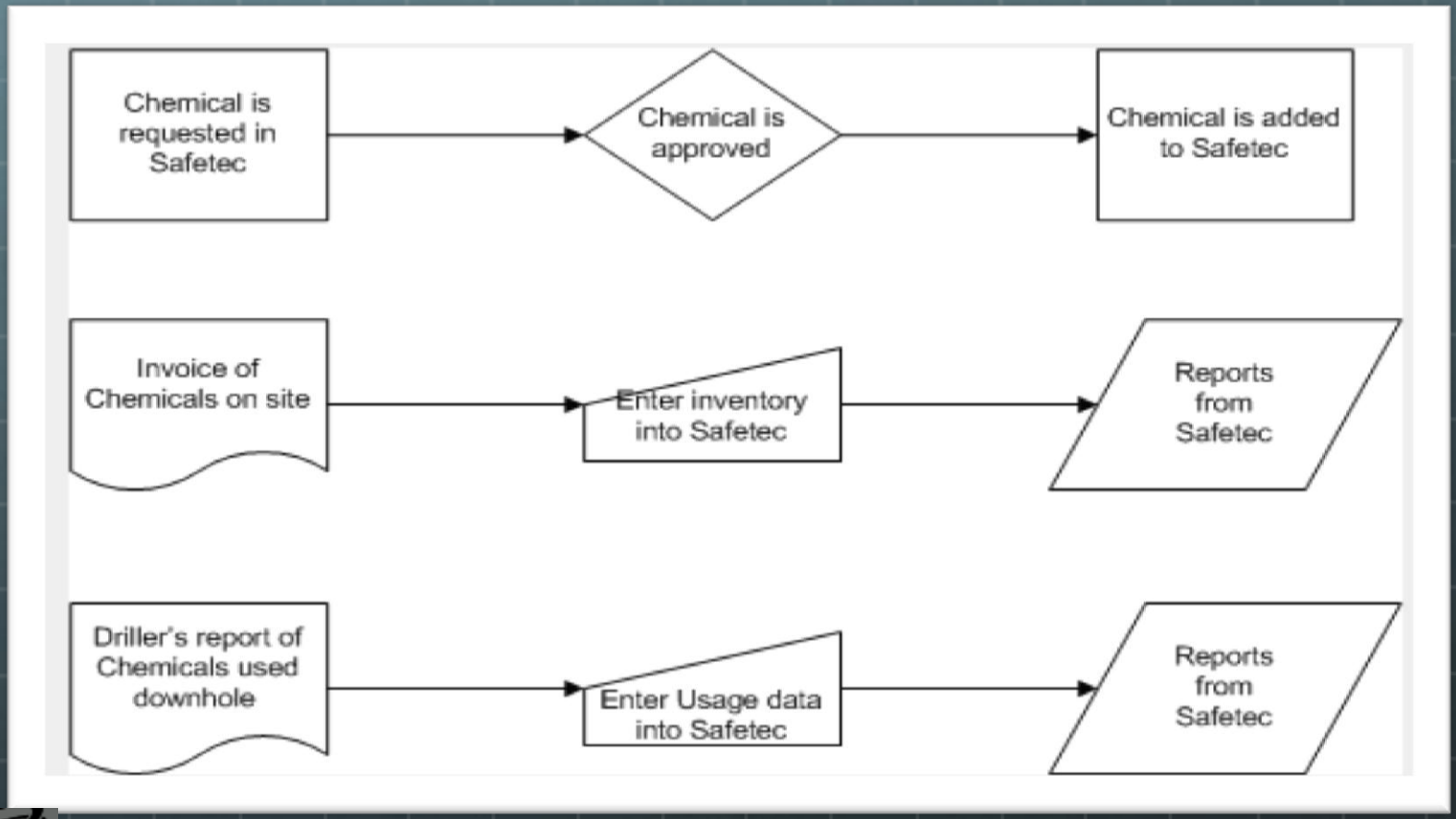
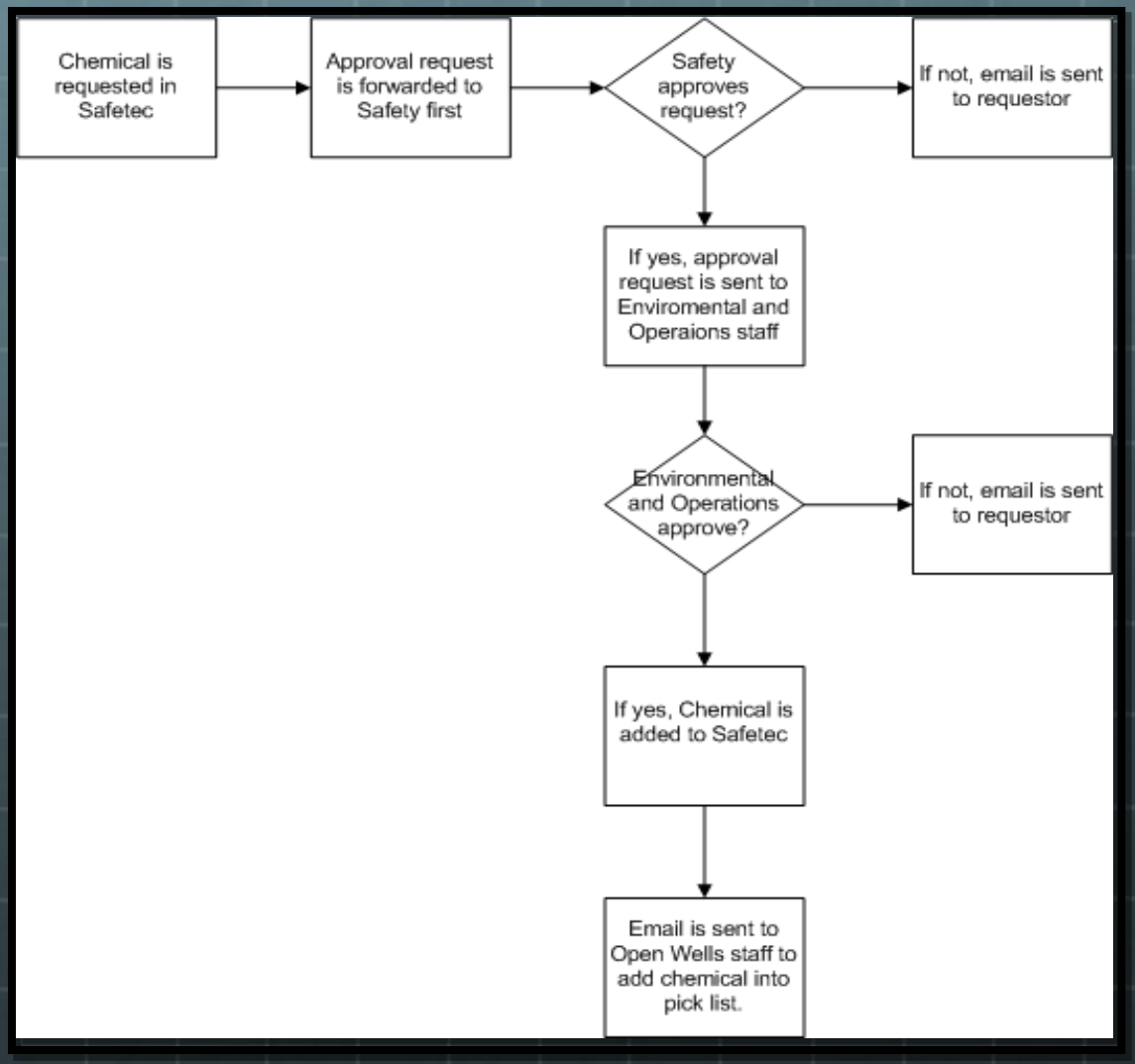


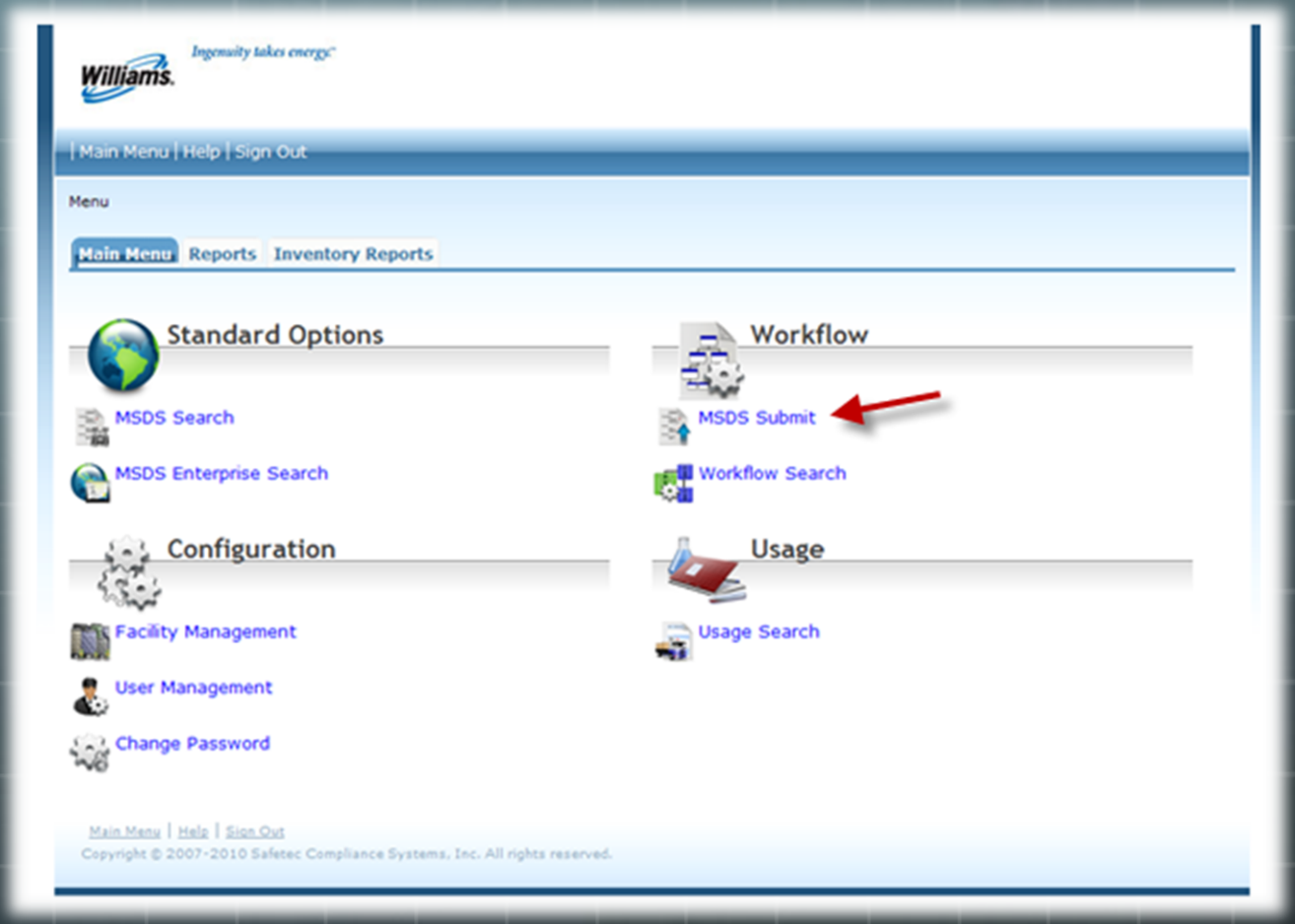
Diagram of San Juan data flow



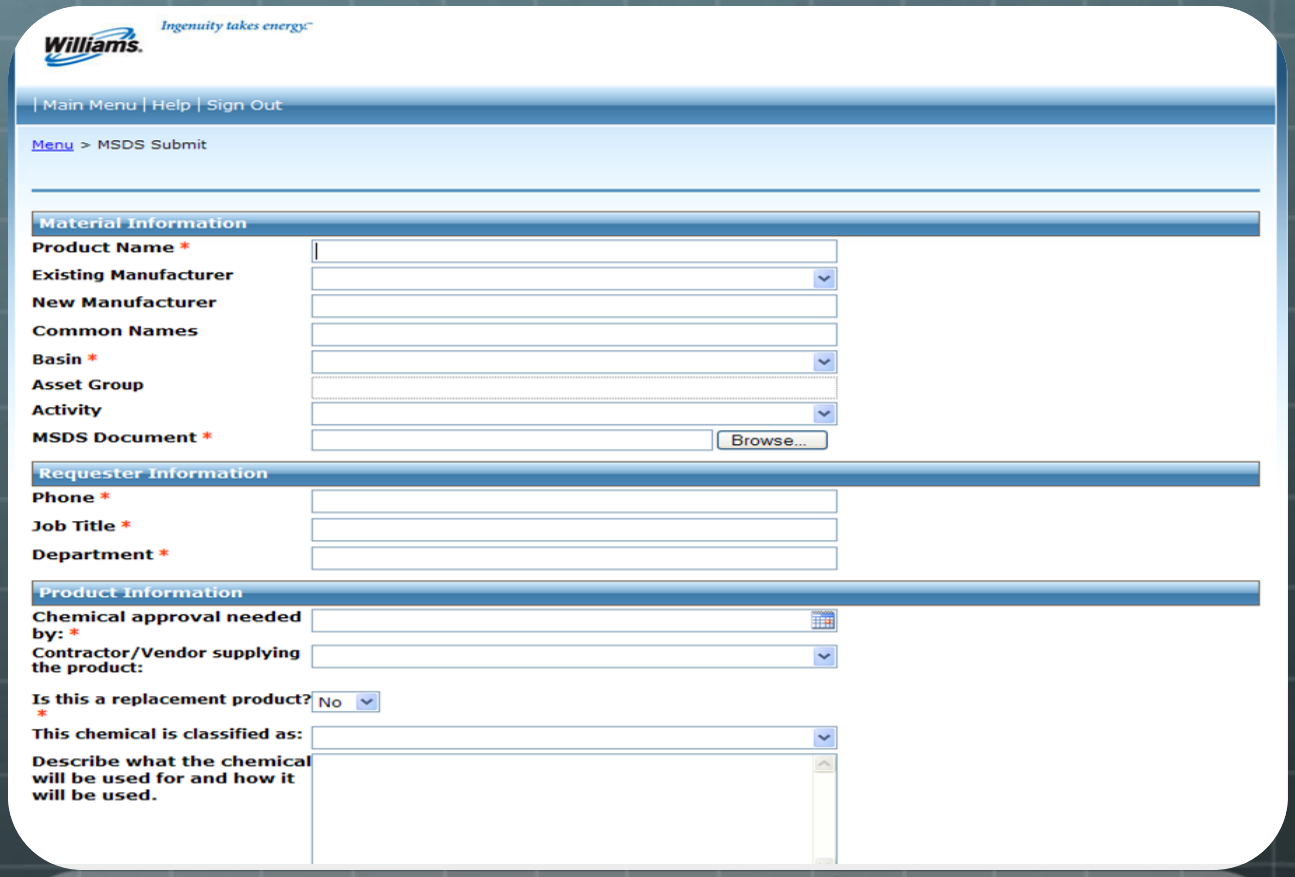
Safetec Approval Process



MSDS Submit Request



MSDS Submit Request (cont.)

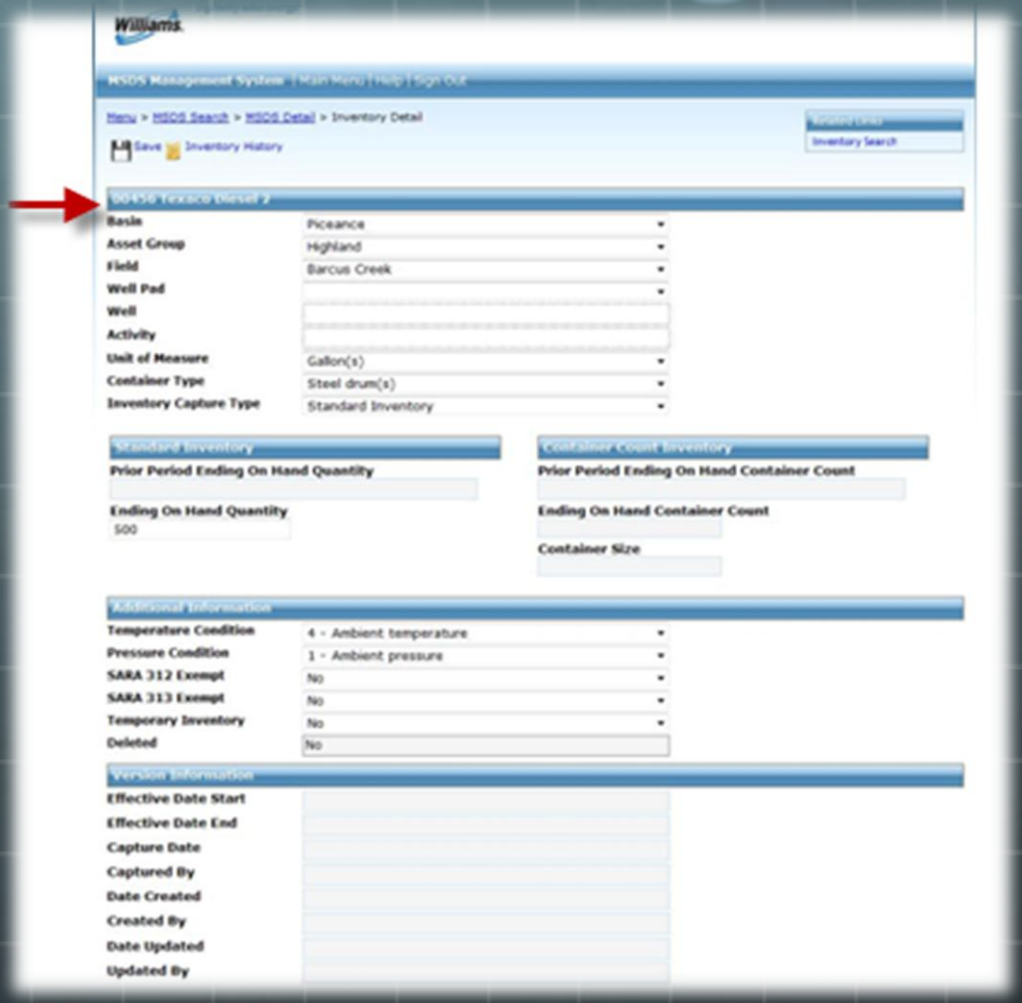


Inventory Capture

- Williams uses Open Wells (a Landmark product) to capture the inventory at wellsites in the Piceance Basin.
- Williams uses Safetec to capture the inventory at wellsites in the San Juan Basin.
- Note: In either database, the inventory is not reduced as chemicals are used downhole. The report processes do the calculations.

Inventory Capture Piceance using Open Wells

Inventory Capture – San Juan using Safetec

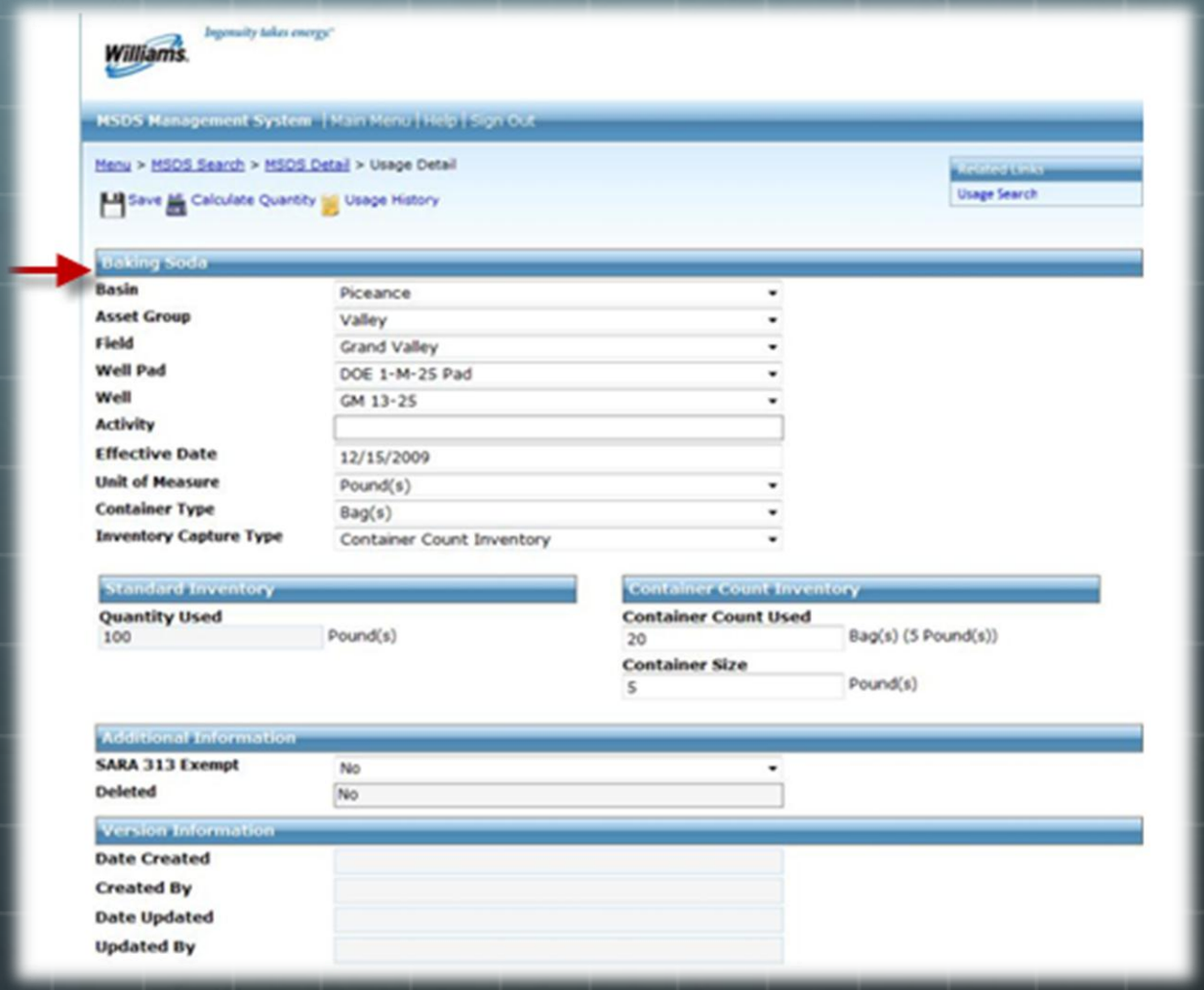


Usage Capture

- Williams uses Open Wells (a Landmark product) to capture the usage data at wellsites in the Piceance Basin.
- Williams uses Safetec to capture the usage data at wellsites in the San Juan Basin.

Usage Capture Piceance using Open Wells - Drilling

Usage Capture San Juan using Safetec



Piceance Internal Database and Reporting Process

- Open Wells inventory and usage data is stored in the database and sent to Safetec.
- Safetec sends chemical name and specific gravity to internal database.
- Weights of chemicals in inventory and used downhole are calculated using specific gravity.
- Report is generated from this database for all chemicals over 500 pounds within the quarter.

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Piceance Usage
sample report

COGCC 205 Report

Quarter Selected: 2010-Q1

Denver E&P
Piceance
Valley
Parachute

All Values are in (lbs)

	2010-Q1							
	GV 82-5 Pad							
	PA 314-5 (62219399)	PA 324-5 (62219406)	PA 334-5 (62219426)	PA 34-5 (62219424)	PA 414-5 (62219401)	PA 423-5 (62219422)	PA 514-5 (62219403)	PA 524-5 (62219408)
⊞ BE-7 / Biocide	2779	2424	2121	2062	2172	2829	2879	2769
⊞ FR-66 / Friction Reducer	2456	2052	1833	1824	1912	2420	2377	2437
⊞ Hydrochloric Acid / Acid	3744	2808	2808	2808	2808	3744	3744	3744
⊞ LoSurf-300D / Surfactant								
⊞ LOSURF-300M / Surfactant	2100	1732	1610	1588	1694	2169	2101	2162
⊞ SandWedge WF / Cond Enhancer	3619	3031	2638	2600	2902	3588	3468	3529
⊞ Sodium Hypochlorite Solution / Biocide	4978	4229	3883	3859	4093	4905	5004	5067

San Juan Reporting Process

- All inventory and usage data are entered directly into Safetec.
- Reports are generated for chemicals over 500 pounds for the quarter.

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San Juan Inventory sample report

Material Quantities (Pounds) By Adv. Criteria Style R1

Effective Date Start 1/1/2008 **Effective Date End** 12/31/2008

Ice Cream Production

Product Name	Manufacturer	MSDS Number	Max Quantity	Max Possible Quantity	UOM
#675 3M Screen Cleaner	3M (Minnesota Mining & Mfg.)	MSDS-000100	125.2405	225.3205	Pounds
01562 Capella WF 68	Chevron	MSDS-000036	2,793.9	3,210.9	Pounds
01607 Biostar Hydraulic 32	Shell	MSDS-000121	220,462,261,999.7796	220,462,261,999.7796	Pounds
02324 Meropa 320	Chevron	MSDS-000037	424,612.752	424,612.752	Pounds
03107 Adhesive	Henkel (Loctite)	MSDS-000043	50	100	Pounds
Acetone (CDTA Regulated)	Dow Chemical Co.	MSDS-000099	83,515,576.78	83,515,785.28	Pounds
Acetylene	Airgas	MSDS-000089	1,434.51	3,742.2	Pounds
Anhydrous Ammonia	Dyno Nobel Inc.	MSDS-000267	1,677.7734	1,677.7734	Pounds
Battery Acid	Johnson Controls Battery Group	MSDS-000156	610,745.289	610,745.289	Pounds
Biostar Hydraulic 32	Chevron	MSDS-000048	4,593.672	4,593.672	Pounds
Dalton Sulfuric Acid	E.I. DuPont De Nemours & Co. (Dupont)	MSDS-000052	50	50	Pounds
Dow Corning 1200 RTV Prime Coat, Red	Dow Corning	MSDS-000053	10,000	10,000	Pounds
Natural Gas (Odorized)	Hess	MSDS-000060	1,245	1,245	Pounds
Natural Gas Condensate (Sweet)	Hess	MSDS-000061	110.2311	110.2311	Pounds
No. 2 Fuel Oil	Hess	MSDS-000062	145.116	145.116	Pounds
Sample Product #1	Citgo	MSDS-000073	5	5	Pounds
Zinc-It Instant Gold Galvanize - Aerosol	CRC Industries	MSDS-000071	28.5	37.5	Pounds

San Juan Inventory Report by Chemical Quantities

Chemical Quantities (Pounds) By Adv. Criteria Style R1

Effective Date Start 1/1/2008 **Effective Date End** 12/31/2008

Ice Cream Production

Chemical Name	CAS Number	Max Quantity	Max Possible Quantity	UOM
Tributyl Isopropyl Titanate	116928-85-9	100	100	Pounds
Natural Gas Condensate	68919-39-1	110.2311	110.2311	Pounds
#2 Fuel Oil	68476-30-2	145.116	145.116	Pounds
Natural Gas, Dry	68410-63-9	1,245	1,245	Pounds
Light Aliphatic Petroleum Solvent Naphtha	64742-89-8	10,000	10,000	Pounds
Highly Refined mineral Oil	64741-89-5	2,793.9	3,210.9	Pounds
Ethylhexyl Oleate	26399-02-0	22,024,180,432.6858	22,024,180,432.6858	Pounds
Acrylate Ester	13048-33-4	2.5	5	Pounds
Petroleum Distillate	8030-30-6	1.425	1.875	Pounds
Rapeseed Oil	8002-13-9	26,455,475,803.5026	26,455,475,803.5026	Pounds
Sulfuric Acid	7664-93-9	213,760.8512	213,760.8512	Pounds
Ammonia Anhydrous	7664-41-7	33.5555	33.5555	Pounds
Zinc Dust	7440-66-6	17.1	22.5	Pounds
Photoinitiator	6175-45-7	2.5	5	Pounds
Tetrabutyl Titanante	5593-70-4	1,000	1,000	Pounds
Modified Acrylamide	2680-03-7	15	30	Pounds
Tetra (2-Methoxyethoxy) Silane	2157-45-1	500	500	Pounds
Xylene	1330-20-7	8,819,190.4800	8,819,190.4800	Pounds
Tetrapropylorthosilicate	682-01-9	1,000	1,000	Pounds

San Juan Usage sample report

Material Usage (Pounds) Receipt By Adv. Criteria Style R1

Effective Date Start 1/1/2008 **Effective Date End** 12/31/2008

Steel Mill

Product Name	Manufacturer	MSDS Number	Total Usage Quantity	UOM
01562 Capella WF 68	Chevron	MSDS-000036	250,200	Pounds
Acetone (CDTA Regulated)	Dow Chemical Co.	MSDS-000049	166,800	Pounds
Biostar Hydraulic 32	Chevron	MSDS-000048	91,873.44	Pounds
Dow Corning 1200 RTV Prime Coat, Red	Dow Corning	MSDS-000175	95,076	Pounds
Dow Corning 738 Electrical Sealant, White	Dow Corning	MSDS-000055	108,420	Pounds
No. 2 Fuel Oil	Hess	MSDS-000062	87,069.6	Pounds
Safety & Zone Marking Latex	Benjamin Moore & Co.	MSDS-000063	41,700	Pounds
Strait-Line Marking Chalk (Blue)	American Tool Co.	MSDS-000207	1,000	Pounds
Zinc-It Instant Gold Galvanize - Aerosol	CRC Industries	MSDS-000071	250,200	Pounds

San Juan Usage Report by Chemical Quantities

Chemical Usage (Pounds) Receipt By Adv. Criteria Style R1

Effective Date Start 1/1/2008 **Effective Date End** 12/31/2008

Steel Mill

Chemical Name	CAS Number	Total Usage Quantity	UOM
Arsenic		0.2	Pounds
Chromium		0.003	Pounds
Crystalline Silica		40	Pounds
Lead		0.004	Pounds
Modified Polyethylene Blend		166,800	Pounds
Nickel		0.015	Pounds
Propane	74-98-6	17,514	Pounds
Isobutane	75-28-5	25,020	Pounds
Naphthalene	91-20-3	87.0696	Pounds
Ethylbenzene	100-41-4	1,901.52	Pounds
Ethylene Glycol	107-21-1	542.1	Pounds
Vinyl Acetate	108-05-4	166,800	Pounds
Toluene	108-88-3	75,168.42	Pounds
Ethylene Glycol Methyl Ether	109-86-4	6,655.32	Pounds
Butyl Carbitol	112-34-5	458.7	Pounds
Calcium Carbonate	471-34-1	18,864.4	Pounds
Tetraisopropoxy Titanate	546-68-9	5,421	Pounds
Magnesite	546-93-0	60	Pounds
Tetrapropylorthosilicate	682-01-9	9,507.6	Pounds
Methyl Trimethoxysilane	1185-55-3	10,842	Pounds
Limestone	1317-65-3	1,000	Pounds
Xylene	1330-20-7	6,655.32	Pounds

Example showing all chemicals used

Ist Quarter

Denver E&P Piceance
Valley Parachute

		well 1	well 2	well 3
Barite	Inventory	750	750	750
	Used	650	700	720
	Transferred	100	50	30
Sawdust	Inventory	200	200	200
	Used	150	190	200
	Transferred	50	10	0
Lime	Inventory	270	270	270
	Used	250	270	230
	Transferred	20	0	40

Example showing not all chemicals used

Ist Quarter

Denver E&P Piceance Valley Parachute

		well 1	well 2	well 3
Barite	Inventory	750	750	750
	Used	650	400	720
	Transferred	100		30
Sawdust	Inventory	200	200	200
	Used	150	100	200
	Transferred	50		0
Lime	Inventory	270	270	270
	Used	250	100	230
	Transferred	20		40