3rd Party Technical Evaluation for *Petroteq Energy*

PETROTEQ ENERGY – ASPHALT RIDGE FACILITY (VERNAL, UT)

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Executive Summary

Petroteq Enegy has been operating the Asphalt Ridge facility as a pilot plant to prove various aspects of the process for greater implementation in a full-scale facility. Kahuna has reviewed operating data, process simulation data, and the 5,000 BPD Greenfield Energy Oil Sands Facility FEED report for the purposes of this third-party technical evaluation. The process of operating a pilot plant to verify various technologies in their performance against theoretical limits must be approached in a stepwise manner to make a change and observe and measure the effects. The oil sands of the western United States are noticeably different compared to the Canadian oil sands in that they are locked in dry sandstone formations with very little water. The dry nature allows the ore to be mined by conventional means and processed by simply crushing the ore and washing it in a solvent. The following items have been identified to significantly impact operating costs and oil extraction:

- Crushed Ore Consistency
- Solvent Quality and Inherent Properties
- Steady State Operations
- Sufficient Heating of Sand and Pre-Oil
- Mitigation of potential influences of adverse ambient conditions

The mining, crushing, and handling of the ore prior to solvent mixing at the pilot plant utilizes standard equipment. This equipment will scale up according to the required throughput of the full-scale plant in a linear relationship and is built on a mature foundation of the mining, cement, and aggregate industries. The transition moving from a pilot batch process to a full-scale continuous operation provides consistent process conditions which then result in consistent quality in the products. On the solids handling side, the addition of rotary airlock valves will allow metered volumetric flow control of the solids entering the mix tanks. The solids separation at the pilot plant is achieved through vibratory shaker tables, heated augers, and decanter centrifuges. These same principles of separation have been applied in the FEED study for the future commercial scale plant design but rely on the engineered success of the oil and gas industry's drilling mud cleanup technology.

Solvent and oil liberated from the ore must be heated to facilitate the recovery of the solvent through a standard distillation mechanism. The pilot plant utilizes a combination of undersized and oversized equipment to achieve the separation which leads to the start-and-stop nature of this unit's performance. Valkor was brought in originally to improve the efficiency and safety of the 500 bpd nameplate back end of the process and to debottleneck the back end to allow a throughput capacity of 750 bpd. This leads to operations having to stockpile pre-oil and run a flowrate such that the solvent vaporizer exchanger operates within its design range. Performance of the pilot plant is limited due to the mismatch but is easily remedied in the full engineered design proposed for the future facility. Thermal fluid heaters matching the service will deliver consistent heat to ensure the effluent sand meets the Utah Department of Energy regulatory requirements and most of the solvent is liberated from the oil for recycle. The pilot plant already achieves BS&W readings below the sales specification of 0.5% and the enhanced design going forward will only improve this parameter. Design and operating challenges exist around the diesel cut within the bitumen at the pilot plant, but the future plant design accounts for additional solvent distillation to remove the diesel cut to maintain the solvent purity. Ambient solvent loss to the atmosphere is another potential challenge during any of the solids handling steps downstream from mixing, but it is minimal compared to potential losses in the sand effluent or sales oil and will be addressed with an encapsulated and/or vapor-tight equipment to minimize losses.

Operating data from the pilot plant indicates fuel usage at rates 5-6 times greater than the process simulation. Multiple factors affect this quantity and will be addressed in the future plant design:

- Thermal fluid heater specification to match use, the current pilot plant equipment does not match the use
- Equipment will be insulated to minimize ambient losses

- Steady state operation will reduce the energy wasted to bring the system up to operating temperature each day as with the current batch operations

It is the conclusion of Kahuna that the process as designed with the improvements as identified from the pilot plant operations will operate at full scale in agreement with the process simulation within reasonable and acceptable assumptions.

Introduction

Kahuna Ventures LLC (Kahuna) was *contracted* to perform a 3rd party technical verification of an oil sands processing pilot plant located outside Vernal, Utah. Kahuna performed a site visit to discuss the operations and visually assess the performance of the equipment and process. The data and observations obtained from the site have been compared against an *Aspen HYSYS* process simulation model to assess the accuracy of the model. Kahuna has also been requested to provide comment on the feasibility of expanding the process from the pilot scale to a commercial scale as evaluated by Crosstrails Engineering (Crosstrails).

The facility, originally installed by Petroteq Energy Inc., is currently being managed and operated by Greenfield with Valkor LLC personnel. Valkor has made multiple design changes to improve the performance and reliability of the process compared to the original design.

Site Information

The facility is located approximately 6 miles south of Naples, Utah on UT-45 in Uintah County. The location is shown below in Figure 1. Greenfield Energy – Asphalt Ridge Location. The site consists of active mining operations with multiple available dig locations, a solids stockpile/handling area, oil extraction unit, storage tanks, and administrative offices.

Figure 1. Greenfield Energy - Asphalt Ridge Location

Process Description

The facility has an intended original nameplate capacity of processing 875 tons of ore per day at 7% oil saturation and extracting approximately 500 barrels of oil per day. Through the evaluation of the plant and its bottlenecks, the processing team has determined that the effective throughput of the plant, at 7% ore oil saturation, is approximately 250 bpd. The facility, in its current condition must be run in a segmented fashion due to the back end of the facility being designed previously for a much larger throughput than the front end is capable of delivering. The imbalance leads to an intermittent production as pre-oil must be stockpiled in tanks so that the back end can be operated at a rate sufficient to maintain the overall heat transfer coefficient in the flash distillation heat exchange system's largest heat exchanger.

A basic block flow diagram of the process is shown below in Figure 2. Oil Extraction Block Flow Diagram.

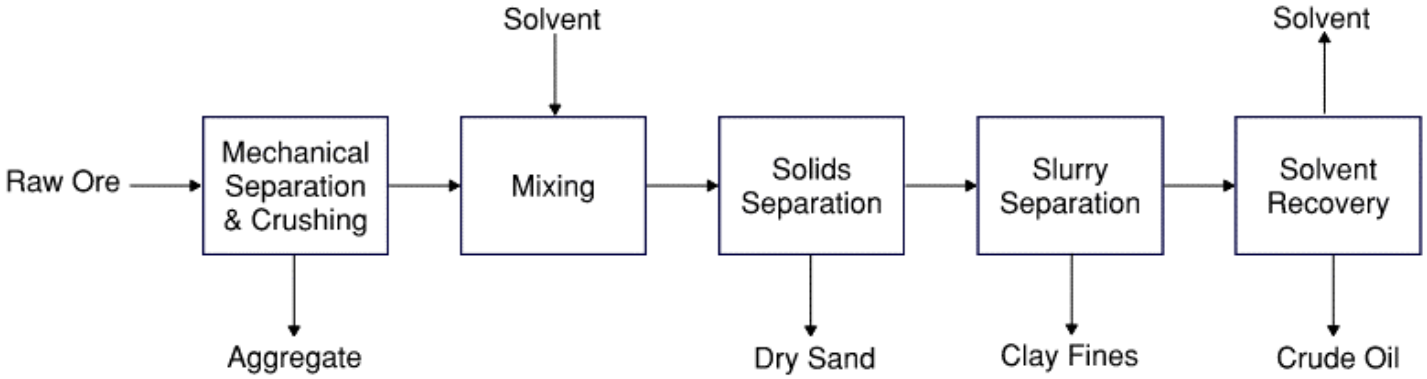

Figure 2. Oil Extraction Block Flow Diagram

The process flow is straightforward and less complex compared to Canadian oil sands which are saturated in water. Pilot plants by virtue are manipulated and changed to justify a proof of concept for each piece within the overall process. This is no exception with the Petroteq pilot plant. To scale up from a pilot plant to a full-scale operational facility requires testing the limits of the equipment and the feedstock. The observations and conclusions as presented in the following sections provide insight to the improvements as proposed in the project FEED study for the future commercial scale facility.

Raw Ore

Raw ore for the facility will eventually be supplied from multiple dig locations in the area. Current ore sampling has returned bitumen contents ranging from 4.7% - 12.9% by weight. Bitumen content in the ore from the pilot plant site trends toward the lower half of the measured range.

The process starts with mining of the raw ore from veins of material in the geologic formation. The material is brought to a central stockpile. Raw ore from the stockpile is initially placed into the mechanical separation and crushing unit to remove non-oil containing aggregates and reduce the sandstone materials to a smaller ore size with higher surface area per volume to facilitate oil extraction. The consistency of the crushed material is directly proportional to the amount of oil that can be extracted. The fine material is fed via conveyor belt and hoppers to one of three mixing tanks. During the visit it was observed that some uncrushed sand and aggregate made it past this stage, but it was minimal compared to bulk material on the conveyors to the mixing tanks. This uncrushed or inconsistently sized ore is primarily of concern with the longevity of the pilot plant equipment and design updates within the future facility will minimize the effect of these inconsistencies. Bitumen extraction for this material is still expected to occur as further ore size reduction will occur in mix tanks.

Scaling up of the raw ore handling equipment is linear and should provide consistent quality. The pilot plant utilizes the calculated volume of the front-end loader bucket as the measured quantity entering the crusher and thus the mixing

tanks. This method is not exact, nor does it need to be at this stage of development. The future plant proposes the use of rotary airlock valves on the inlet to the mixing tanks. A cutaway view of rotary airlock valve is below in Figure 3. Rotary Airlock Valve.

Figure 3. Rotary Airlock Valve (ACS Valves)

Airlock valves are common in solids handling and are a good fit for this application due to the fine grain nature of the material at this stage. These valves provide a way to deliver consistent volume per the speed of rotation, and the added benefit of tight internal tolerances and wear surfaces which minimizes the flow of vapor in either direction through the valve body.

One aspect to be considered going forward will be possible requirements for dust control at the Tar Sands II (future plant) site due to its locale within the city of Vernal on the upwind side.

Solvent

The solvent in use at the pilot plant is in an iterative process to maximize the extraction of bitumen from the sand and reduce losses of solvent to the sand, sales oil, and the atmosphere. Due to the heavy composition of the bitumen, a lighter fluid is all that is needed to drive the mass transfer from the sand into the solvent. Substances ranging from natural gas liquids and natural gas condensate to naphtha are acceptable solvents that can extract the oil. Natural gas liquids are highly volatile at atmospheric conditions and make containing it a challenge unless in a closed and pressurized piping system. Natural gas condensates are a wide range of components but still has volatility at atmospheric conditions and makes handling difficult. Naphtha, typically a refinery cut from pentanes up to a boiling point of about 200^{o}F, is a wide array of components and stable at atmospheric conditions.

Currently the pilot plant uses a naphtha feedstock with questionable quality and contamination form sulfur components. The current pilot operation is using this product without an additional ringed component (Toluene, Acetone, etc) to enhance the solvent pickup; however, this has been briefly tested in the past and will be incorporated in the future closed-loop design. Simulation data suggests a migration of mass from the solvent to the sales oil potentially in the diesel boiling point range. Based on this and field observations on solvent losses, the future commercial scale plant will utilize a naphtha refinery product-based solvent with better quality, defined boiling point range, and free of sulfur contaminants. To enhance the stripping abilities of the solvent, it will be heated prior to mixing with the ore. The heating could release light end components from the solvent which over time would reduce its ability to strip the bitumen from the sand. The future plant design will aim for minimal solvent losses at each stage of processing including this inlet pre-heating as, from discussions had, the team intends to keep at below the initial boiling point of the solvent

used. This will be achieved through a vapor tight process equipment design and heating the sand to maximize solvent recovery via vapor recovery systems.

Solvent/Ore Mixing

Within the mixing tanks, solvent is added, and the slurry is mixed continuously by internal paddles for a predetermined duration. The mixing enhances the absorption abilities of the solvent to extract the oil out of the sand. Once the predetermined time has passed, the slurry is pumped into a series of two shaker tables for main solids separation.

The pilot plant mixing tanks are simple vertical storage tanks with a paddle mixer inserted from the top. The proposed mix tank design for the future plant will use retrofitted ball mills sized for the required residence time. Ball mills are typically employed for crushing and/or polishing solid materials but could be retrofitted to continually stir the slurry using internal paddles as is passes from the inlet to the outlet. Ball mills are rotating drums mounted on two large bearings and rotated using a larger ring gear connected to a drive motor via a gear box. The materials are typically fed via conveyor or chute so adapting the mills to minimize vapor loss will be addressed by the introduction of the above-mentioned airlock valves as well as the alteration of the back end of the rotary mixer. An example of a ball mill is shown below in Figure 4. Example Ball Mill w/o Drive.

Figure 4. Example Ball Mill w/o Drive

Solids Extraction

The following discussions go through the individual main pieces of process equipment used in the separation of the solid phase (sand) from the bitumen and solvent.

The shaker tables work as their name states by moving material over a screen mesh which allows the liquid phase and smallest solid materials to pass to a collection tank below. A consistent, well distributed and controlled flow across the shaker table is key to its performance as surges in material will result in undesirable wet materials reaching the end of the table. The solid material that does not pass through the mesh, falls off the end of the table into a parallel set of heated inclined augurs. The augurs are heated by a thermal heating fluid on the exterior at approximately 300^{o}F and a nitrogen purge is introduced to recover as much solvent from the sand as possible. The dry sand is required to exceed the State of Utah, Department of Energy, Tier 1 Screening Levels with less than 10,000 mg of Total Recoverable Petroleum Hydrocarbons (TRPH) per 1 kg of soil. Current testing of the sand indicates levels returning above that threshold around 23,000-26,000 mg/kg. As a test, a portion of once-through sand was re-run through the augurs with the result visually appearing to be significantly dryer sand. This sand, at the time of this writing, is being tested in Salt Lake City for remaining hydrocarbon content. Regardless, the FEED study proposes to further reduce this content with the additions of mud cleaners, clarifying tanks, and sand dryers as used in drilling mud cleanup and as recommended by an oilfield services company who provides this equipment and service. Current operations at the pilot plant are testing

an enhanced solvent with toluene added to enhance absorption of oil and which would reduce the amount of bitumen left in the sand. The addition of toluene has been proven to be highly effective at stripping the bitumen from sand; however, the result may not necessarily strip any more bitumen so much as it reduces the mixing time.

Liquids from the shaker tables are pumped through a 400-barrel settling tank into a pair of decanter centrifuges which separate the clay fines from the oil/solvent to ensure the final product's BS&W specifications (< 0.5%) are satisfied. Valkor added additional settling tanks and line heaters to help break emulsion at the pilot plant to aid in the removal of fine material. BS&W values ranged initially up around 0.6-0.8 leaving the shaker tanks, but after the additional heating and separation BS&W is maintained at or below 0.4 in the pre-oil tanks. Oil/solvent from the decanters is passed into a set of Pre-Oil tanks which accumulate volume prior to final distillation.

Solvent Recovery

The solvent recovery occurs in a single stage flash distillation process which heats the oil/solvent mixture to release the solvent components and then flashes them in a flash distillation vessel at a pressure as low as possible. This ensures that the maximum amount of light end solvent is recovered but at a high enough pressure to allow the vapors to recondense through the coolers and be routed to a recovery tank maintained at 3 psig. Solvent components from the shale shakers and shaker augers are collected by a vapor recovery unit which compresses and condenses the solvent for recycle back to the solvent feed tanks. Stabilized oil in the distillation vessel is pumped to the Sales Oil tanks.

The pilot plant equipment for the solvent recovery achieves a basic material separation and oil is produced at levels below 11°API on a consistent basis. Light components from the bitumen remain in the solvent but some of these light end components in the solvent are lost to vaporization across the shakers and in the open-ended heated augurs. These light end components are collected via the vapor recovery unit (VRU). Some of the heavier components from the solvent remain in the oil. Eventually this loss of light end components reduces the effectiveness of the solvent to strip the bitumen from the sand, and more solvent stays with the oil during the process due to inefficiencies in the system's solvent recovery system as it currently exists. Any solvent absorbed into the oil is sold as oil volume at a slightly higher API gravity, but it still results in additional costs around logistics and materials to makeup the lost solvent.

The FEED study for the future commercial scale facility proposes to solve this process with an improved solvent recovery unit design. A multistage distillation column will be used to achieve a more defined cut between the solvent and the oil. As suspected during operations and confirmed in the *Aspen HYSYS* process simulation, there is a diesel cut being stripped from the oil which reduces the effectiveness of the solvent. The FEED study incorporates a separate distillation column to further separate the diesel cut from the solvent. The separated diesel could be re-blended with the sales oil or marketed as an entirely separate product.

Fuel Usage

Fuel for heating the pilot plant thermal fluid is supplied by propane as no natural gas supply line is available at this pilot facility. The pilot plant is utilizing a repurposed hydrogen gas heater as a hot oil heater. Operating conditions suggest that the heater struggles with maintaining a thermal fluid temperature at heavy loads indicating that it may be undersized for this facility. Current propane usage rates are on the order of 64 gallons of propane per 3.2 cubic yard bucket of raw ore processed. The simulated heat requirements estimate a much smaller fuel usage of 11 gallons per bucket at a heater efficiency of 80%. The large discrepancy can be explained by the heater design mismatch and daily batch operations compared to the steady state environment in the simulation. The future facility would use a proper thermal fluid heater designed to burn natural gas in the range of 80% efficiency, and the facility is designed to operate 24/7 which would remove the daily cold start heat requirements which the pilot plant experiences.

Instrumentation

The ability to monitor and gather data greatly affects the ability of operations staff to promptly respond to process upsets. The pilot plant is lightly instrumented using pneumatic control devices with only what is required for proving the concept. The future facility will have significantly more instrumentation to allow online monitoring of conditions (temperature, pressure, flow rate, composition) which will allow operators to adjust if required to maintain operational and production efficiency. The future facility will also have fully electrically controlled instrumentation and control system which is lacking in the pilot design and set-up.

Operating Costs

Preliminary equipment electrical load list and fuel gas usage for the future facility were supplied. Projected operating costs were supplied by Crosstrails and reviewed by Kahuna and are below in Table 1. Future Commercial Facility OPEX Estimate.

Table 1. Future Commercial Facility OPEX Estimate

PETROTEQ ENERGY **- FUTURE 5000 BPD FACILITY**
OPERATING EXPENSE SUMMARY

Item	Quantity	Units	Unit Cost	Units	Burden Multiplier	Annual Cost (US$)	Assumptions
Labor							
Plant Manager	1	Person	$ 75.00	$/hr	1.3	$ 202,800	Serves as shift supervisor
Superintendents	2	Person	$ 65.00	$/hr	1.3	$ 351,520	
EHS Coordinator	1	Person	$ 50.00	$/hr	1.3	$ 135,200	
Plant Operations	9	Person	$ 38.50	$/hr	1.3	$ 936,936	
Material Handlers	6	Person	$ 25.00	$/hr	1.3	$ 405,600	
Administrative	4	Person	$ 20.00	$/hr	1.3	$ 216,320	2 during the day, 1 each on the other two shifts
Maintenance	3	Person	$ 38.50	$/hr	1.3	$ 312,312	
Subtotal:	**26**	**People**				**$ 2,560,688**	
Utilities							
Electricity	4787	kW	$ 0.05	$/kw-hr		$ 2,067,984	
Fuel Gas	9.099	MMSCFD	$ 4.25	$/MMBTU/HR		$ 13,921,470	1000 BTU/SCF
Potable Water	800	Gal/Day	$ 0.02	Gal		$ 5,760	
Subtotal:						**$ 15,995,214**	
Material							
Leased Equipment						$ 600,000	
Solvent	76	bbl/day	$ 75.00	$/bbl		$ 2,052,000	Assumes 0.8% loss, make-up only
Hot Oil	20	Gal/Day	$ 50.00	$/Gal		$ 360,000	Make-up only
Spare Parts						$ 1,500,000	Equipment spares, bulk material
Mining Costs			$ 8.50	$/bbl		$ 15,300,000	Assumes average 10% saturation ore
Subtotal:						**$ 19,812,000**	
Miscellaneous							
Vendor Support Services						$ 750,000	Equipment reps, vac truck services, etc
Other (Note 3)						$ 250,000	
Subtotal:						**$ 1,000,000**	
Total						**$ 39,367,902**	

Notes	
1	Does not include corporate costs, SG&A or royalty fees
2	Based on 24 hour operation using 3 labor shifts, 360 days/year
3	Includes office supplies, internet services, waste & housekeeping services, etc

It is the opinion of Kahuna that the estimates within these operating costs are founded on valid assumptions and are in line with industry norms. Uncertainties that may affect these estimates exist around:

- US natural gas and electricity prices.
- Geologic challenges in mining the ore.
- US CPI inflation trends.

Data Analysis

The data analysis supporting this report included the review of multiple days of operating data and an *Aspen HYSYS* process simulation. The operating data was supplied by Valkor personnel and included mix tank batching quantities, start/end of day tank levels (Solvent, Pre-Oil, Sales, 400 bbl Upright, and Settling), start/end of day propane tank levels, random BS&W test results, and some finished sand loadout quantities. Due to the batch nature of the pilot plant, the data was analyzed as an overall run and standardized against a common metric such as a 3.2 cubic yard bucket of material fed to the process. The analysis sheet, data summary sheet, and individual daily ticket sheets are included in Appendix A. The summary and analysis sheets combine the daily net changes in tank levels to represent the net flow of mass through the facility. The theoretical oil quantities as calculated are based on assumed bitumen content, not daily measured known quantities on the inlet to the facility. The sales oil volumes per bucket of material are high compared to the theoretical bitumen content, but those are expected as a combination of potentially higher bitumen concentrations in the raw ore and solvent remaining with the oil. This batch pilot process results in discontinuities within the data and requires interpretation of the steps being taken between data points, such as, when the pre-oil is rerun through the backend flash distillation for additional solvent recovery or during initial heating of the equipment after a cold start.

The *Aspen HYSYS* process simulation is a steady-state snapshot of the heat and material balance within a facility. Process simulation softwares are based on proven thermodynamic equations of state and other associated correlations. The user inputs for a simulation are a list of assumptions centering on the inlet compositions and operating criteria (temperatures, pressures, flow rates, efficiencies) to achieve the required outlet products. Kahuna performed a review of these assumptions to ensure they are in line with common engineering guidelines or are reflective of repeatable observed operating conditions. The analysis sheet, process flow diagram, composition summary sheet, stream conditions summary sheet, and energy stream summary sheet are included in Appendix B. As with the operating data, a common metric using every 3.2 cubic yard bucket of material fed into the process was used for comparison of data between simulation and operating data. Analysis of the simulation data is a straightforward review of the assumptions and the data calculated. Additional statistical analyses (polynomial regressions) were required around the calculation of ore properties to facilitate the conversion of data into the “bucket of material” metric. The simulated sales oil volume per bucket of material is still elevated compared to theoretical bitumen contents, but the composition indicates a 1% solvent loss to the sales oil which increases this factor. Solvent left in the sales oil or sand should improve with properly sized equipment as to be supplied with the future facility.

Conclusion

It is the conclusion of Kahuna that the process as designed for the future facility with the improvements as identified from the pilot plant operations will operate at full scale in agreement with the process simulation within reasonable and acceptable assumptions. Kahuna has no reason to question the liquid-vapor performance as simulated. Process simulation software solutions utilize well known, documented, correlations for two phase systems for liquid and gas behavior, however, three phase systems including a solid phase are much less documented. The pilot plant operations are imperative to understand the reasonable assumptions going forward around the effectiveness of the solvent and its interactions with the oil sands.

Appendix A - Petroteq Pilot Plant Operating Data & Analysis

Greenfield Energy
Petroteq Pilot Plant
Operating Data Analysis

Date	Buckets Ore	Solvent Used per Mix (bbls)	Propane Used (gallons)	Solvent (bbls)	PreOil (bbls)	Sales (bbls)	400bbl Uprigth (bbls)	Settling Tank (bbls)	Oil Content (%)	Theoretical Oil (bbls)	Solvent Delivery (bbls)
5/6/2021	25.0	375.0	0.0	-250.0	598.3	0.0	0.0	0.0	5%	21.0	
5/7/2021	0.0	0.0	0.0	0.0	246.7	0.0	0.0	0.0	5%	0.0	
5/8/2021	0.0	0.0	0.0	591.7	-695.0	56.7	0.0	0.0	5%	0.0	
5/10/2021	25.0	375.0	-285.1	-475.0	155.0	-1.7	360.0	50.0	5%	21.0	
5/11/2021	14.0	180.0	15338.2	-206.7	280.0	-1.7	340.0	30.0	5%	11.7	
5/12/2021	0.0	0.0	-1217.2	-11.7	173.3	-1.7	-340.0	0.0	5%	0.0	303.7
5/13/2021	0.0	0.0	-1629.3	751.7	-355.0	38.3	-340.0	0.0	5%	0.0	
5/14/2021	25.0	375.0	-1193.8	-378.3	193.3	-1.7	-340.0	0.0	5%	21.0	
5/15/2021	0.0	0.0	-830.0	0.0	206.7	-1.7	-200.0	0.0	5%	0.0	
5/18/2021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5%	0.0	303.4
5/19/2021	0.0	0.0	-1280.6	0.0	206.7	-1.7	-200.0	0.0	5%	0.0	
5/26/2021	30.0	450.0	-1308.0	-470.0	430.0	0.0	80.0	80.0	5%	25.2	
5/27/2021	0.0	0.0	-1960.9	-443.3	310.0	31.7	100.0	0.0	5%	0.0	
5/28/2021	0.0	0.0	-213.7	728.3	-881.7	31.7	0.0	0.0	5%	0.0	
6/1/2021	31.0	545.0	-212.7	-610.0	620.0	0.0	-140.0	0.0	5%	26.0	
6/2/2021	0.0	0.0	-1045.3	560.0	-756.7	71.7	0.0	0.0	5%	0.0	
6/3/2021	9.0	155.0	-204.7	-160.0	161.7	13.3	0.0	0.0	5%	7.5	
6/4/2021	26.0	425.0	-400.7	-423.3	473.3	13.3	-40.0	0.0	5%	21.8	
6/5/2021	0.0	0.0	-941.6	531.7	-701.7	55.0	0.0	0.0	5%	0.0	
6/21/2021	15.0	320.0	-217.0	-328.3	296.7	0.0	0.0	0.0	10%	24.8	
6/22/2021	0.0	0.0	-1309.7	545.0	-685.0	80.0	0.0	0.0	10%	0.0	
6/23/2021	14.0	210.0	-218.7	-270.0	211.7	-13.3	0.0	0.0	10%	23.2	
6/24/2021	18.0	290.0	-218.5	63.3	328.3	0.0	0.0	0.0	10%	29.8	
6/25/2021	0.0	0.0	-1086.3	403.3	-585.0	41.7	0.0	0.0	10%	0.0	
6/26/2021	18.0	290.0	-430.1	-305.0	366.7	0.0	0.0	0.0	10%	29.8	
Totals	**250.0**	**3990.0**	**-16204.1**	**-156.7**	**598.3**	**410.0**	**-720.0**	**160.0**		**262.6**	**607.1**

Fuel Usage	*(Propane)*
90905	Btu/gallon
-1473030614	Btu
5892122	Btu/bucket
64.82	*Gallons/bucket*

Sales Oil Realized	
1.64	bbls sales oil/bucket
1.05	theoretical bbls sales oil/bucket

44342

Greenfield Energy Petroteq Pilot Plant Operating Data Combined			Date	5/6/2021	5/6/2021	5/7/2021	5/7/2021	5/8/2021	5/8/2021	5/10/2021	5/10/2021	5/11/2021	5/11/2021	5/12/2021	5/12/2021	5/13/2021	5/13/2021	5/14/2021	5/14/2021	5/15/2021
				Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start
			MixTab	'Mix5-6'	'Mix5-6'	'Mix5-7'	'Mix5-7'	'Mix5-8'	'Mix5-8'	'Mix5-10'	'Mix5-10'	'Mix5-11'	'Mix5-11'	'Mix5-12'	'Mix5-12'	'Mix5-13'	'Mix5-13'	'Mix5-14'	'Mix5-14'	'Mix5-15'
			TankTab	'Tanks5-6'	'Tanks5-6'	'Tanks5-7'	'Tanks5-7'	'Tanks5-8'	'Tanks5-8'	'Tanks5-10'	'Tanks5-10'	'Tanks5-11'	'Tanks5-11'	'Tanks5-12'	'Tanks5-12'	'Tanks5-13'	'Tanks5-13'	'Tanks5-14'	'Tanks5-14'	'Tanks5-15'
Total Solvent		**bbls**		375		0		0		375		180		0		0		375		0
Total Buckets		#			25		0		0		25		14		0		0		25	
Diesel			46	0	0	0	0	0	0	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"
Propane			48	0	0	0	0	0	0	1569.58758	1284.48113	1569.58758	16907.7778	16907.7778	15690.5316	15690.5316	14061.2205	14061.2205	12867.3966	12867.3966
	Daily Change				0		0		0		-285.10645		15338.1902		-1217.2462		-1629.3111		-1193.8239	
TANK LEVELS (20bbls/ft)																				
Solvent	**Daily Change**				-250.0005		0		591.66785		-475.00095		-206.66708		-11.66669		751.66817		-378.33409	
	Total			415.00083	165.00033	176.66702	176.66702	176.66702	768.33487	768.33487	293.33392	313.33396	106.66688	118.33357	106.66688	118.33357	870.00174	870.00174	491.66765	491.66765
C-1	*Level*		9	1' 11"	2' 4"	2' 7"	2' 7"	2' 7"	11' 7"	11' 7"	3' 11"	4'	1' 1"	1' 1"	1' 1"	1' 1"	12' 1"	12' 1"	3' 10"	3' 10"
	Bbls			21.66671	46.66676	51.66677	51.66677	51.66677	231.66713	231.66713	61.66679	80.00016	21.66671	21.66671	21.66671	21.66671	241.66715	241.66715	61.66679	61.66679
C-2	*Level*		11	11' 6"	1' 7"	1' 8"	1' 8"	1' 8"	12'	12'	4'	4' 2"	1'	1'	1'	1'	12' 4"	12' 4"	11' 2"	11' 2"
	Bbls			230.00046	31.66673	33.3334	33.3334	33.3334	240.00048	240.00048	80.00016	83.3335	20.00004	20.00004	20.00004	20.00004	246.66716	246.66716	223.33378	223.33378
C-3	*Level*		13	5' 1"	1' 2"	1' 4"	1' 4"	1' 4"	11' 7"	11' 7"	4' 11"	4' 2"	6"	6"	6"	6"	9' 11"	9' 11"	9' 10"	9' 10"
	Bbls			101.66687	23.33338	26.66672	26.66672	26.66672	231.66713	231.66713	81.66683	83.3335	10.00002	10.00002	10.00002	10.00002	181.66703	181.66703	181.66703	181.66703
C-4	*Level*		15	3' 10"	3' 2"	3' 3"	3' 3"	3' 3"	3' 3"	3' 3"	3' 6"	3' 4"	2' 9"	3' 4"	2' 9"	3' 4"	10'	10'	1' 3"	1' 3"
	Bbls			61.66679	63.33346	65.00013	65.00013	65.00013	65.00013	65.00013	70.00014	66.6668	55.00011	66.6668	55.00011	66.6668	200.0004	200.0004	25.00005	25.00005
C-5	*Level*		17																	
	Bbls																			
Pre-Oil	**Daily Change**				598.33453		246.66716		-695.00139		155.00031		280.00056		173.33368		-355.00071		193.33372	
	Total			0	598.33453	748.33483	995.00199	995.00199	300.0006	300.0006	455.00091	436.66754	716.6681	715.00143	888.33511	715.00143	360.00072	358.33405	551.66777	551.66777
P-1	*Level*		19	0	13' 8"	13' 7"	13' 8"	13' 8"	6'	6'	9' 3"	9' 3'	14'	14'	14'	14'	1' 11"	1' 11"	10' 8"	10' 8"
	Bbls			0	273.33388	271.66721	273.33388	273.33388	120.00024	120.00024	185.00037	180.00036	280.00056	280.00056	280.00056	280.00056	21.66671	21.66671	213.33376	213.33376
P-2	*Level*		21	0	10' 10"	10' 6"	13'	13'	2'	2'	2'	2' 1"	11' 11"	11' 11'	14'	11' 11'	1' 10"	1' 10'	1' 10"	1' 10"
	Bbls			0	201.66707	210.00042	260.00052	260.00052	40.00008	40.00008	40.00008	41.66675	221.66711	220.00044	280.00056	220.00044	21.66671	20.00004	21.66671	21.66671
P-3	*Level*		23	0	4'	3' 7"	13' 4"	13' 4"	3'	3'	3'	4' 10"	4' 10"	4' 10"	9' 9"	4' 10"	7'	7'	7'	7'
	Bbls			0	80.00016	71.66681	266.6672	266.6672	60.00012	60.00012	60.00012	81.66683	81.66683	81.66683	195.00039	81.66683	140.00028	140.00028	140.00028	140.00028
P-4	*Level*		25	0	2' 2"	2' 6"	2' 4"	2' 4"	2'	2'	2'	0	0	0	0	0	2' 4"	2' 4"	2' 4"	2' 4"
	Bbls			0	43.33342	50.0001	46.66676	46.66676	40.00008	40.00008	40.00008	0	0	0	0	0	46.66676	46.66676	46.66676	46.66676
P-5	*Level*		27	0	0	7' 3"	7' 5"	7' 5"	2'	2'	6' 6"	6' 8"	6' 8"	6' 8"	6' 8"	6' 8"	6' 6"	6' 6"	6' 6"	6' 6"
	Bbls			0	0	145.00029	148.33363	148.33363	40.00008	40.00008	130.00026	133.3336	133.3336	133.3336	133.3336	133.3336	130.00026	130.00026	130.00026	130.00026
Sales	**Daily Change**				0		0		56.66678		-1.66667		-1.66667		-1.66667		38.33341		-1.66667	
	Total			0	0	173.33368	173.33368	173.33368	230.00046	231.66713	230.00046	231.66713	230.00046	231.66713	230.00046	231.66713	270.00054	271.66721	270.00054	271.66721
S-1	*Level*		31	0	0	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-2	*Level*		33	0	0	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-3	*Level*		35	0	0	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-4	*Level*		37	0	0	3' 7"	3' 7"	3' 7"	6' 1'	6' 1"	6' 1'	6' 1"	6' 1'	6' 1"	6' 1'	6' 1"	8' 10'	8' 10"	8' 10'	8' 10"
	Bbls			0	0	71.66681	71.66681	71.66681	120.00024	121.66691	120.00024	121.66691	120.00024	121.66691	120.00024	121.66691	160.00032	161.66699	160.00032	161.66699
S-5	*Level*		39	0	0	5' 1"	5' 1"	5' 1"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"	5' 6"
	Bbls			0	0	101.66687	101.66687	101.66687	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022	110.00022
400-Bbl Upright	**Daily Change**				0		0		0		360.00072		340.00068		-340.00068		-340.00068		-340.00068	
	Level		42	0	0	300 BBL	EMPTY	Empty	EMPTY	Empty	18'	Empty	17'	17'	Empty	17'	Empty	17'	Empty	10'
	Bbls			0	0	0	0	0	0	0	360.00072	0	340.00068	340.00068	0	340.00068	0	340.00068	0	200.0004
Settling Tank	**Daily Change**				0		0		0		50.0001		30.00006		0		0		0	
	Level		44	0	0	FULL	EMPTY	Empty	EMPTY	Empty	2' 6"	Empty	1' 6"	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	50.0001	0	30.00006	0	0	0	0	0	0	0

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Greenfield Energy Petroteq Pilot Plant Operating Data Combined			Date	5/15/2021	5/19/2021	5/19/2021	5/26/2021	5/26/2021	5/27/2021	5/27/2021	5/28/2021	5/28/2021	5/29/2021	5/29/2021	6/1/2021	6/1/2021	6/2/2021	6/2/2021	6/3/2021	6/3/2021
				End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
			MixTab	'Mix5-15'	'Mix5-19'	'Mix5-19'	'Mix5-26'	'Mix5-26'	'Mix5-27'	'Mix5-27'	'Mix5-28'	'Mix5-28'	'Mix5-29'	'Mix5-29'	'Mix6-1'	'Mix6-1'	'Mix6-2'	'Mix6-2'	'Mix6-3'	'Mix6-3'
			TankTab	'Tanks5-15'	'Tanks5-19'	'Tanks5-19'	'Tanks5-26'	'Tanks5-26'	'Tanks5-27'	'Tanks5-27'	'Tanks5-28'	'Tanks5-28'	'Tanks5-29'	'Tanks5-29'	'Tanks6-1'	'Tanks6-1'	'Tanks6-2'	'Tanks6-2'	'Tanks6-3'	'Tanks6-3'
Total Solvent		**bbls**			0		450		0		0		0		545		0		155	
Total Buckets		#		0		0		30		0		0		0		31		0		9
Diesel			46	2' 4"	2' 4"	1' 9"	1' 9"	1' 9"	1' 6"	1' 4"	1' 6"	1' 4"	1' 4"	1' 4"	1' 4"	1' 2"	1' 2"	1' 2"	1' 2"	1' 2"
Propane			48	12037.4028	12037.4028	10756.8083	10540.4124	9232.44689	9232.44689	7271.53537	6841.47337	6627.75877	6627.75877	6627.75877	6627.75877	6415.04405	6415.04405	5369.74403	5369.74403	5165.0081
	Daily Change			-829.99374		-1280.5945		-1307.9655		-1960.9115		-213.7146		0		-212.71472		-1045.3		-204.73593
TANK LEVELS (20bbls/ft)																				
Solvent	**Daily Change**			0		0		-470.00094		-443.33422		728.33479		0		-610.00122		560.00112		-160.00032
	Total			491.66765	491.66765	491.66765	1053.33544	583.3345	583.3345	140.00028	140.00028	868.33507	868.33507	868.33507	881.66843	271.66721	273.33388	833.335	808.33495	648.33463
C-1	*Level*		9	3' 10"	3' 10"	3' 10"	11' 3"	11' 3"	11' 3"	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	5'	5' 1"	Empty
	Bbls			61.66679	61.66679	61.66679	225.00045	225.00045	225.00045	0	0	0	0	0	0	0	0	100.0002	101.66687	0
C-2	*Level*		11	11' 2"	11' 2"	11' 2"	7' 7"	7' 7"	7' 7"	Empty	Empty	12' 5"	12' 5"	12' 5"	11' 3"	3' 3"	3' 4"	9' 1"	9'	8'
	Bbls			223.33378	223.33378	223.33378	151.66697	151.66697	151.66697	0	0	248.33383	248.33383	248.33383	225.00045	65.00013	66.6668	181.66703	180.00036	160.00032
C-3	*Level*		13	9' 10"	9' 10"	9' 10"	11' 8"	Empty	Empty	Empty	Empty	12' 6"	12' 6"	12' 6"	11' 6"	3' 4"	3' 4"	9' 1"	8' 11"	8' 1"
	Bbls			181.66703	181.66703	181.66703	233.3338	0	0	0	0	250.0005	250.0005	250.0005	230.00046	66.6668	66.6668	181.66703	161.66699	161.66699
C-4	*Level*		15	1' 3"	1' 3"	1' 3"	11' 11"	Empty	Empty	Empty	Empty	12' 5"	12' 5"	12' 5"	11' 4"	3' 6"	3' 6"	9' 3"	9'	8' 2"
	Bbls			25.00005	25.00005	25.00005	221.66711	0	0	0	0	248.33383	248.33383	248.33383	226.66712	70.00014	70.00014	185.00037	180.00036	163.33366
C-5	*Level*		17				11' 10"	10' 4"	10' 4"	7'	7'	6' 10"	6' 10"	6' 10"	10'	3' 6"	3' 6"	9' 3"	9' 3"	8' 2"
	Bbls						221.66711	206.66708	206.66708	140.00028	140.00028	121.66691	121.66691	121.66691	200.0004	70.00014	70.00014	185.00037	185.00037	163.33366
Pre-Oil	**Daily Change**			206.66708		206.66708		430.00086		310.00062		-881.66843		0		620.00124		-756.66818		161.66699
	Total			758.33485	551.66777	758.33485	341.66735	771.66821	741.66815	1051.66877	1051.66877	170.00034	170.00034	170.00034	251.66717	871.66841	871.66841	115.00023	175.00035	336.66734
P-1	*Level*		19	14'	10' 8"	14'	2'	14'	14'	14'	14'	Empty	Empty	Empty	Empty	14'	14'	Empty	Empty	8' 3"
	Bbls			280.00056	213.33376	280.00056	40.00008	280.00056	280.00056	280.00056	280.00056	0	0	0	0	280.00056	280.00056	0	0	165.00033
P-2	*Level*		21	8' 11"	1' 10"	8' 11"	2'	8' 7"	8' 5"	13' 10"	13' 10"	Empty	Empty	Empty	Empty	14'	14'	Empty	Empty	Empty
	Bbls			161.66699	21.66671	161.66699	40.00008	171.66701	168.33367	261.66719	261.66719	0	0	0	0	280.00056	280.00056	0	0	0
P-3	*Level*		23	7'	7'	7'	6' 8"	6' 8"	6' 9"	14'	14'	Empty	Empty	Empty	4' 11"	7' 10"	7' 10"	Empty	2' 11"	3' 6"
	Bbls			140.00028	140.00028	140.00028	133.3336	133.3336	135.00027	280.00056	280.00056	0	0	0	81.66683	141.66695	141.66695	0	41.66675	70.00014
P-4	*Level*		25	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	2' 4"	3'	3'	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			46.66676	46.66676	46.66676	46.66676	46.66676	46.66676	60.00012	60.00012	0	0	0	0	0	0	0	0	0
P-5	*Level*		27	6' 6"	6' 6"	6' 6"	4' 10"	7'	5' 7"	8' 6"	8' 6"	8' 6"	8' 6"	8' 6"	8' 6"	8' 6"	8' 6"	5' 9"	6' 8"	5' 11"
	Bbls			130.00026	130.00026	130.00026	81.66683	140.00028	111.66689	170.00034	170.00034	170.00034	170.00034	170.00034	170.00034	170.00034	170.00034	115.00023	133.3336	101.66687
Sales	**Daily Change**			-1.66667		-1.66667		0		31.66673		31.66673		0		0		71.66681		13.33336
	Total			270.00054	271.66721	270.00054	311.66729	311.66729	311.66729	343.33402	311.66729	343.33402	343.33402	343.33402	343.33402	343.33402	343.33402	415.00083	435.00087	448.33423
S-1	*Level*		31	EMPTY	EMPTY	EMPTY	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-2	*Level*		33	EMPTY	EMPTY	EMPTY	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	3' 7"	3' 7"	3' 7"
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	71.66681	71.66681	71.66681
S-3	*Level*		35	EMPTY	EMPTY	EMPTY	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-4	*Level*		37	8' 10'	8' 10"	8' 10'	10' 6"	10' 6"	10' 6"	12' 11"	10' 6"	12' 11"	12' 11"	12' 11"	12' 11"	12' 11"	12' 11"	12' 11"	13' 1"	13' 1"
	Bbls			160.00032	161.66699	160.00032	210.00042	210.00042	210.00042	241.66715	210.00042	241.66715	241.66715	241.66715	241.66715	241.66715	241.66715	241.66715	261.66719	261.66719
S-5	*Level*		39	5' 6"	5' 6"	5' 6"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 9"
	Bbls			110.00022	110.00022	110.00022	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	115.00023
400-Bbl Upright	**Daily Change**			-200.0004		-200.0004		80.00016		100.0002		0		0		-140.00028		0		0
	Level		42	Empty	10'	Empty	Empty	4'	4'	9'	7'	7'	7'	7'	7'	Empty	7'	7'	7'	7'
	Bbls			0	200.0004	0	0	80.00016	80.00016	180.00036	140.00028	140.00028	140.00028	140.00028	140.00028	0	140.00028	140.00028	140.00028	140.00028
Settling Tank	**Daily Change**			0		0		80.00016		0		0		0		0		0		0
	Level		44	Empty	Empty	Empty	Empty	4'	Empty	Empty	Empty	Empty		Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	80.00016	0	0	0	0	0	0	0	0	0	0	0	0

Greenfield Energy Petroteq Pilot Plant Operating Data Combined			Date	6/4/2021	6/4/2021	6/5/2021	6/5/2021	6/21/2021	6/21/2021	6/22/2021	6/22/2021	6/23/2021	6/23/2021	6/24/2021	6/24/2021	6/25/2021	6/25/2021	6/26/2021	6/26/2021
				Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
			MixTab	'Mix6-4'	'Mix6-4'	'Mix6-5'	'Mix6-5'	'Mix6-21'	'Mix6-21'	'Mix6-22'	'Mix6-22'	'Mix6-23'	'Mix6-23'	'Mix6-24'	'Mix6-24'	'Mix6-25'	'Mix6-25'	'Mix6-26'	'Mix6-26'
			TankTab	'Tanks6-4'	'Tanks6-4'	'Tanks6-5'	'Tanks6-5'	'Tanks6-21'	'Tanks6-21'	'Tanks6-22'	'Tanks6-22'	'Tanks6-23'	'Tanks6-23'	'Tanks6-24'	'Tanks6-24'	'Tanks6-25'	'Tanks6-25'	'Tanks6-26'	'Tanks6-26'
Total Solvent		**bbls**		425		0		320		0		210		290		0		290	
Total Buckets		#			26		0		15		0		14		18		0		18
Diesel			46	1' 2"	1' 2"	1' 2"	1' 2"	9 "	9"	9 "	6"	6"	1' 3"	1' 3"	1' 3"	1' 3"	1' 2"	1' 2"	1' 2"
Propane			48	4961.9423	4561.22635	4168.42435	3226.78547	10540.4124	10323.4114	10323.4114	9013.68202	9013.68202	8794.9324	8576.2862	8357.83166	8357.83166	7271.53537	7271.53537	6841.47337
	Daily Change				-400.71595		-941.63888		-217.00106		-1309.7293		-218.74962		-218.45454		-1086.2963		-430.06199
TANK LEVELS (20bbls/ft)																			
Solvent	**Daily Change**				-423.33418		531.66773		-328.33399		545.00109		-270.00054		63.33346		403.33414		-305.00061
	Total			616.6679	193.33372	195.00039	726.66812	493.33432	165.00033	166.667	711.66809	705.00141	435.00087	421.66751	485.00097	485.00097	888.33511	886.66844	581.66783
C-1	*Level*		9	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C-2	*Level*		11	7' 9"	2' 4"	2' 5"	9'	2' 3"	2' 1"	2' 2"	2' 3"	2' 3"	2' 2"	2' 2"	2'	2'	12' 11"	12' 10"	7' 2"
	Bbls			155.00031	46.66676	48.33343	180.00036	45.00009	41.66675	43.33342	45.00009	45.00009	43.33342	43.33342	40.00008	40.00008	241.66715	241.66715	143.33362
C-3	*Level*		13	7' 10"	2' 5"	2' 4"	9' 1"	2' 2"	2' 2"	2' 1"	11' 1"	11'	6' 9"	6' 10"	2'	2' 1"	12' 10"	12' 11"	7' 2"
	Bbls			141.66695	48.33343	46.66676	181.66703	43.33342	43.33342	41.66675	221.66711	220.00044	135.00027	121.66691	40.00008	41.66675	241.66715	241.66715	143.33362
C-4	*Level*		15	8'	2' 5"	2' 6"	9' 1"	10' 1"	2'	2' 1"	11' 1"	11'	6' 10"	6' 10"	10' 2"	10' 3	10' 2"	10' 1"	7' 4"
	Bbls			160.00032	48.33343	50.0001	181.66703	201.66707	40.00008	41.66675	221.66711	220.00044	121.66691	121.66691	203.33374	200.0004	203.33374	201.66707	146.66696
C-5	*Level*		17	8'	2' 6"	2' 6"	9' 2"	10' 2"	2'	2'	11' 2"	11'1	6' 9"	6' 9"	10' 1"	10' 2"	10' 1"	10' 1"	7' 5"
	Bbls			160.00032	50.0001	50.0001	183.3337	203.33374	40.00008	40.00008	223.33378	220.00044	135.00027	135.00027	201.66707	203.33374	201.66707	201.66707	148.33363
Pre-Oil	**Daily Change**				473.33428		-701.66807		296.66726		-685.00137		211.66709		328.33399		-585.00117		366.6674
	Total			328.33399	801.66827	801.66827	100.0002	515.00103	811.66829	813.33496	128.33359	176.66702	388.33411	388.33411	716.6681	718.33477	133.3336	133.3336	500.001
P-1	*Level*		19	8' 3"	14'	14'	Empty	14'	14'	14'	Empty	Empty	10' 7"	10' 7"	14'	14'	Empty	Empty	14'
	Bbls			165.00033	280.00056	280.00056	0	280.00056	280.00056	280.00056	0	0	211.66709	211.66709	280.00056	280.00056	0	0	280.00056
P-2	*Level*		21	Empty	14'	14'	Empty	3' 11"	14'	14'	Empty	Empty	Empty	Empty	13' 2"	13' 2"	Empty	Empty	2' 2"
	Bbls			0	280.00056	280.00056	0	61.66679	280.00056	280.00056	0	0	0	0	263.33386	263.33386	0	0	43.33342
P-3	*Level*		23	3' 10"	6'	6'	Empty	2' 2"	6' 4"	6' 5"	Empty	2' 5"	2' 5"	2' 5"	2' 5"	2' 5"	Empty	Empty	2' 5"
	Bbls			61.66679	120.00024	120.00024	0	43.33342	126.66692	128.33359	0	48.33343	48.33343	48.33343	48.33343	48.33343	0	0	48.33343
P-4	*Level*		25	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P-5	*Level*		27	5' 11"	6' 1"	6' 1"	5'	6' 6"	6' 3"	6' 3"	6' 5"	6' 5"	6' 5"	6' 5"	6' 3"	6' 4"	6' 8"	6' 8"	6' 5"
	Bbls			101.66687	121.66691	121.66691	100.0002	130.00026	125.00025	125.00025	128.33359	128.33359	128.33359	128.33359	125.00025	126.66692	133.3336	133.3336	128.33359
Sales	**Daily Change**				13.33336		55.00011		0		80.00016		-13.33336		0		41.66675		0
	Total			435.00087	448.33423	435.00087	490.00098	310.00062	310.00062	310.00062	390.00078	390.00078	376.66742	375.00075	375.00075	375.00075	416.6675	416.6675	416.6675
S-1	*Level*		31	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-2	*Level*		33	3' 7"	3' 7"	3' 7"	5' 8"	5' 8"	5' 8"	5' 8"	9' 8"	9' 8"	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			71.66681	71.66681	71.66681	113.33356	113.33356	113.33356	113.33356	193.33372	193.33372	0	0	0	0	0	0	0
S-3	*Level*		35	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S-4	*Level*		37	13' 1"	13' 1"	13' 1"	13' 1"	4' 9"	4' 9"	4' 9"	4' 9"	4' 9"	13' 9"	13' 8"	13' 8"	13' 8"	15' 9"	15' 9"	15' 9"
	Bbls			261.66719	261.66719	261.66719	261.66719	95.00019	95.00019	95.00019	95.00019	95.00019	275.00055	273.33388	273.33388	273.33388	315.00063	315.00063	315.00063
S-5	*Level*		39	5' 1"	5' 9"	5' 1"	5' 9"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"	5' 1"
	Bbls			101.66687	115.00023	101.66687	115.00023	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687	101.66687
400-Bbl Upright	**Daily Change**				-40.00008		0		0		0		0		0		0		0
	Level		42	7'	5'	5'	5'	4'	4'	4'	4'	4'	4'	4'	4'	4'	4'	4'	4'
	Bbls			140.00028	100.0002	100.0002	100.0002	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016	80.00016
Settling Tank	**Daily Change**				0		0		0		0		0		0		0		0
	Level		44	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty	Empty
	Bbls			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Greenfield Energy
Petroteq Oil Sands Pilot Plant
Operating Data

Daily Mix Tank Sheets

&

Daily Tank Levels

MIX TANKS

DATE 5/6/2021

START TIME 8:00 AM END TIME 5:00 PM

	Bbls of Solvent		Buckets of Ore
1	35		3
2	40		2
3	35		3
4	40		2
5	35		3
6	40		2
7	35		3
8	40		2
9	35		3
10	40		2
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

MIX TANKS

DATE 5/10/2021

START TIME 8:00 AM END TIME 5:30 PM

		Bbls of Solvent		Buckets of Ore
1	M2	35		3
2	M1	40		2
3	M2	35		3
4	M1	40		2
5	M2	35		3
6	M1	40		2
7	M2	35		3
8	M1	40		2
9	M2	35		3
10	M1	40		2
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

MIX TANKS

DATE 5/11/2021

START TIME 8:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore
1	M2	35		3
2	M2	35		3
3	M2	35		3
4	M1	40		2
5	M2	35		3
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

MIX TANKS

DATE 5/14/2021

START TIME 8:30 AM END TIME 5:00 PM

		Bbls of Solvent		Buckets of Ore
1	M2	35		3
2	M1	40		2
3	M2	35		3
4	M1	40		2
5	M2	35		3
6	M1	40		2
7	M2	35		3
8	M1	40		2
9	M2	35		3
10	M1	40		2
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

DATE 5/6/2021

START TIME	6:00 AM		END TIME	6:00 PM
TANK LEVELS			TANK LEVELS	
Solvent			Solvent	
C-1	1' 11"		C-1	2' 4"
C-2	11' 6"		C-2	1' 7"
C-3	5' 1"		C-3	1' 2"
C-4	3' 10"		C-4	3' 2"
Pre-Oil			Pre-Oil	
P-1			P-1	13' 8"
P-2			P-2	10' 10"
P-3			P-3	4'
P-4			P-4	2' 2"
P-5			P-5	
Sales			Sales	
S-1			S-1	
S-2			S-2	
S-3			S-3	
S-4			S-4	
S-5			S-5	
400-Bbl Upright			400-Bbl Upright	
Settling Tank			Settling Tank	

DATE 5/7/2021

START TIME	6:30 AM		END TIME	4:00 PM
TANK LEVELS			TANK LEVELS	
Solvent			Solvent	
C-1	2' 7"		C-1	2' 7"
C-2	1' 8"		C-2	1' 8"
C-3	1' 4"		C-3	1' 4"
C-4	3' 3"		C-4	3' 3"
Pre-Oil			Pre-Oil	
P-1	13' 7"		P-1	13' 8"
P-2	10' 6"		P-2	13'
P-3	3' 7"		P-3	13' 4"
P-4	2' 6"		P-4	2' 4"
P-5	7' 3"		P-5	7' 5"
Sales			Sales	
S-1	EMPTY		S-1	EMPTY
S-2	EMPTY		S-2	EMPTY
S-3	EMPTY		S-3	EMPTY
S-4	3' 7"		S-4	3' 7"
S-5	5' 1"		S-5	5' 1"
400-Bbl Upright	300 BBL		400-Bbl Upright	EMPTY
Settling Tank	FULL		Settling Tank	EMPTY

DATE 5/8/2021

START TIME	6:30 AM	END TIME	4:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	2' 7"	C-1	11' 7"
C-2	1' 8"	C-2	12'
C-3	1' 4"	C-3	11' 7"
C-4	3' 3"	C-4	3' 3"
Pre-Oil		Pre-Oil	
P-1	13' 8"	P-1	6'
P-2	13'	P-2	2'
P-3	13' 4"	P-3	3'
P-4	2' 4"	P-4	2'
P-5	7' 5"	P-5	2'
Sales		Sales	
S-1	EMPTY	S-1	EMPTY
S-2	EMPTY	S-2	EMPTY
S-3	EMPTY	S-3	EMPTY
S-4	3' 7"	S-4	6' 1'
S-5	5' 1"	S-5	5' 6"
400-Bbl Upright	Empty	400-Bbl Upright	EMPTY
Settling Tank	Empty	Settling Tank	EMPTY

DATE 5/10/2021

START TIME	7:30 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	11' 7"	C-1	3' 11"
C-2	12'	C-2	4'
C-3	11' 7"	C-3	4' 11"
C-4	3' 3"	C-4	3' 6"
Pre-Oil		Pre-Oil	
P-1	6'	P-1	9' 3"
P-2	2'	P-2	2'
P-3	3'	P-3	3'
P-4	2'	P-4	2'
P-5	2'	P-5	6' 6"
Sales		Sales	
S-1	EMPTY	S-1	EMPTY
S-2	EMPTY	S-2	EMPTY
S-3	EMPTY	S-3	EMPTY
S-4	6' 1"	S-4	6' 1'
S-5	5' 6"	S-5	5' 6"
400-Bbl Upright	Empty	400-Bbl Upright	18'
Settling Tank	Empty	Settling Tank	2' 6"

DATE 5/11/2021

START TIME	6:00 AM		END TIME	6:00 PM
TANK LEVELS			TANK LEVELS	
Solvent			Solvent	
C-1	4'		C-1	1' 1"
C-2	4' 2"		C-2	1'
C-3	4' 2"		C-3	6"
C-4	3' 4"		C-4	2' 9"
Pre-Oil			Pre-Oil	
P-1	9' 3'		P-1	14'
P-2	2' 1"		P-2	11' 11"
P-3	4' 10"		P-3	4' 10"
P-4	0		P-4	0
P-5	6' 8"		P-5	6' 8"
Sales			Sales	
S-1	EMPTY		S-1	EMPTY
S-2	EMPTY		S-2	EMPTY
S-3	EMPTY		S-3	EMPTY
S-4	6' 1"		S-4	6' 1'
S-5	5' 6"		S-5	5' 6"
400-Bbl Upright	Empty		400-Bbl Upright	17'
Settling Tank	Empty		Settling Tank	1' 6"

DATE 5/12/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	1' 1"	C-1	1' 1"
C-2	1'	C-2	1'
C-3	6"	C-3	6"
C-4	3' 4"	C-4	2' 9"
Pre-Oil		Pre-Oil	
P-1	14'	P-1	14'
P-2	11' 11'	P-2	14'
P-3	4' 10"	P-3	9' 9"
P-4	0	P-4	0
P-5	6' 8"	P-5	6' 8"
Sales		Sales	
S-1	EMPTY	S-1	EMPTY
S-2	EMPTY	S-2	EMPTY
S-3	EMPTY	S-3	EMPTY
S-4	6' 1"	S-4	6' 1'
S-5	5' 6"	S-5	5' 6"
400-Bbl Upright	17'	400-Bbl Upright	Empty
Settling Tank	Empty	Settling Tank	Empty

DATE 5/13/2021

	START TIME	6:00 AM		END TIME	6:00 PM
	TANK LEVELS			TANK LEVELS	
	Solvent			Solvent	
C-1		1' 1"	C-1		12' 1"
C-2		1'	C-2		12' 4"
C-3		6"	C-3		9' 11"
C-4		3' 4"	C-4		10'
	Pre-Oil			Pre-Oil	
P-1		14'	P-1		1' 11"
P-2		11' 11'	P-2		1' 10"
P-3		4' 10"	P-3		7'
P-4		0	P-4		2' 4"
P-5		6' 8"	P-5		6' 6"
	Sales			Sales	
S-1		EMPTY	S-1		EMPTY
S-2		EMPTY	S-2		EMPTY
S-3		EMPTY	S-3		EMPTY
S-4		6' 1"	S-4		8' 10'
S-5		5' 6"	S-5		5' 6"
	400-Bbl Upright	17'		400-Bbl Upright	Empty
	Settling Tank	Empty		Settling Tank	Empty

DATE 5/14/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	12' 1"	C-1	3' 10"
C-2	12' 4"	C-2	11' 2"
C-3	9' 11"	C-3	9' 10"
C-4	10'	C-4	1' 3"
Pre-Oil		Pre-Oil	
P-1	1' 11"	P-1	10' 8"
P-2	1' 10'	P-2	1' 10"
P-3	7'	P-3	7'
P-4	2' 4"	P-4	2' 4"
P-5	6' 6"	P-5	6' 6"
Sales		Sales	
S-1	EMPTY	S-1	EMPTY
S-2	EMPTY	S-2	EMPTY
S-3	EMPTY	S-3	EMPTY
S-4	8' 10"	S-4	8' 10'
S-5	5' 6"	S-5	5' 6"
400-Bbl Upright	17'	400-Bbl Upright	Empty
Settling Tank	Empty	Settling Tank	Empty

DATE 5/15/2021

START TIME	6:00 AM		END TIME	6:00 PM
TANK LEVELS			TANK LEVELS	
Solvent			Solvent	
C-1	3' 10"		C-1	3' 10"
C-2	11' 2"		C-2	11' 2"
C-3	9' 10"		C-3	9' 10"
C-4	1' 3"		C-4	1' 3"
Pre-Oil			Pre-Oil	
P-1	10' 8"		P-1	14'
P-2	1' 10"		P-2	8' 11"
P-3	7'		P-3	7'
P-4	2' 4"		P-4	2' 4"
P-5	6' 6"		P-5	6' 6"
Sales			Sales	
S-1	EMPTY		S-1	EMPTY
S-2	EMPTY		S-2	EMPTY
S-3	EMPTY		S-3	EMPTY
S-4	8' 10"		S-4	8' 10'
S-5	5' 6"		S-5	5' 6"
400-Bbl Upright	10'		400-Bbl Upright	Empty
Settling Tank	Empty		Settling Tank	Empty

DATE 5/19/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	3' 10"	C-1	3' 10"
C-2	11' 2"	C-2	11' 2"
C-3	9' 10"	C-3	9' 10"
C-4	1' 3"	C-4	1' 3"
Pre-Oil		Pre-Oil	
P-1	10' 8"	P-1	14'
P-2	1' 10"	P-2	8' 11"
P-3	7'	P-3	7'
P-4	2' 4"	P-4	2' 4"
P-5	6' 6"	P-5	6' 6"
Sales		Sales	
S-1	EMPTY	S-1	EMPTY
S-2	EMPTY	S-2	EMPTY
S-3	EMPTY	S-3	EMPTY
S-4	8' 10"	S-4	8' 10'
S-5	5' 6"	S-5	5' 6"
400-Bbl Upright	10'	400-Bbl Upright	Empty
Settling Tank	Empty	Settling Tank	Empty

DATE 5/26/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	11' 3"	C-1	11' 3"
C-2	7' 7"	C-2	7' 7"
C-3	11' 8"	C-3	Empty
C-4	11' 11"	C-4	Empty
C-5	11' 10"	C-5	10' 4"
Pre-Oil		Pre-Oil	
P-1	2'	P-1	14'
P-2	2'	P-2	8' 7"
P-3	6' 8"	P-3	6' 8"
P-4	2' 4"	P-4	2' 4"
P-5	4' 10"	P-5	7'
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	10' 6"	S-4	10' 6"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	Empty	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	4'
Diesel	1' 9"	Diesel	1' 9"
Propane	56%	Propane	51%

Decanter 1

GPM
BS&W 1
BS&W 2
BS&W 3
BS&W 4
BS&W 5
BS&W 6

Swaco 1

GPM
BS&W 1
BS&W 2
BS&W 3
BS&W 4
BS&W 5
BS&W 6

DATE 5/27/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		**TANK LEVELS**	
Solvent		**Solvent**	
C-1	11' 3"	C-1	Empty
C-2	7' 7"	C-2	Empty
C-3	Empty	C-3	Empty
C-4	Empty	C-4	Empty
C-5	10' 4"	C-5	7'
Pre-Oil		**Pre-Oil**	
P-1	14'	P-1	14'
P-2	8' 5"	P-2	13' 10"
P-3	6' 9"	P-3	14'
P-4	2' 4"	P-4	3'
P-5	5' 7"	P-5	8' 6"
Sales		**Sales**	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	10' 6"	S-4	12' 11"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	9'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 6"	Diesel	1' 4"
Propane	51%	Propane	42%

Decanter 1				**Swaco 1**			
GPM				GPM			
BS&W 1		BS&W 4		BS&W 1		BS&W 4	
BS&W 2		BS&W 5		BS&W 2		BS&W 5	
BS&W 3		BS&W 6		BS&W 3		BS&W 6	

Sand Hauled to Staging Area

DATE 5/28/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	Empty	C-2	12' 5"
C-3	Empty	C-3	12' 6"
C-4	Empty	C-4	12' 5"
C-5	7'	C-5	6' 10"
Pre-Oil		Pre-Oil	
P-1	14'	P-1	Empty
P-2	13' 10"	P-2	Empty
P-3	14'	P-3	Empty
P-4	3'	P-4	Empty
P-5	8' 6"	P-5	8' 6"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	10' 6"	S-4	12' 11"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	7'	400-Bbl Upright	7'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 6"	Diesel	1' 4"
Propane	41%	Propane	40%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area

DATE 5/29/2021

START TIME	6:00 AM		END TIME	6:00 PM
TANK LEVELS			TANK LEVELS	
Solvent			Solvent	
C-1	Empty		C-1	Empty
C-2	12' 5"		C-2	12' 5"
C-3	12' 6"		C-3	12' 6"
C-4	12' 5"		C-4	12' 5"
C-5	6' 10"		C-5	6' 10"
Pre-Oil			Pre-Oil	
P-1	Empty		P-1	Empty
P-2	Empty		P-2	Empty
P-3	Empty		P-3	Empty
P-4	Empty		P-4	Empty
P-5	8' 6"		P-5	8' 6"
Sales			Sales	
S-1	Empty		S-1	Empty
S-2	Empty		S-2	Empty
S-3	Empty		S-3	Empty
S-4	12' 11"		S-4	12' 11"
S-5	5' 1"		S-5	5' 1"
400-Bbl Upright	7'		400-Bbl Upright	7'
Settling Tank			Settling Tank	Empty
Diesel	1' 4"		Diesel	1' 4"
Propane	40%		Propane	40%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area

DATE 6/1/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	11' 3"	C-2	3' 3"
C-3	11' 6"	C-3	3' 4"
C-4	11' 4"	C-4	3' 6"
C-5	10'	C-5	3' 6"
Pre-Oil		Pre-Oil	
P-1	Empty	P-1	14'
P-2	Empty	P-2	14'
P-3	4' 11"	P-3	7' 10"
P-4	Empty	P-4	Empty
P-5	8' 6"	P-5	8' 6"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	12' 11"	S-4	12' 11"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	7'	400-Bbl Upright	Empty
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 4"	Diesel	1' 2"
Propane	40%	Propane	39%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area	9	Temple
Sand Hauled to Staging Area	9	Crown

DATE 6/2/2021

START TIME	6:00 AM	END TIME	6:00 PM

TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	5'
C-2	3' 4"	C-2	9' 1"
C-3	3' 4"	C-3	9' 1"
C-4	3' 6"	C-4	9' 3"
C-5	3' 6"	C-5	9' 3"
Pre-Oil		Pre-Oil	
P-1	14'	P-1	Empty
P-2	14'	P-2	Empty
P-3	7' 10"	P-3	Empty
P-4	Empty	P-4	Empty
P-5	8' 6"	P-5	5' 9"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	3' 7"
S-3	Empty	S-3	Empty
S-4	12' 11"	S-4	12' 11"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	7'	400-Bbl Upright	7'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 2"	Diesel	1' 2"
Propane	39%	Propane	34%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area _____ Temple
Sand Hauled to Staging Area _____ Crown

DATE 6/3/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	5' 1"	C-1	Empty
C-2	9'	C-2	8'
C-3	8' 11"	C-3	8' 1"
C-4	9'	C-4	8' 2"
C-5	9' 3"	C-5	8' 2"
Pre-Oil		Pre-Oil	
P-1	Empty	P-1	8' 3"
P-2	Empty	P-2	Empty
P-3	2' 11"	P-3	3' 6"
P-4	Empty	P-4	Empty
P-5	6' 8"	P-5	5' 11"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	3' 7"	S-2	3' 7"
S-3	Empty	S-3	Empty
S-4	13' 1"	S-4	13' 1"
S-5	5' 1"	S-5	5' 9"
400-Bbl Upright	7'	400-Bbl Upright	7'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 2"	Diesel	1' 2"
Propane	34%	Propane	33%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area _____ Temple
Sand Hauled to Staging Area _____ Crown

DATE 6/4/2021

	START TIME	6:00 AM		END TIME	6:00 PM
	TANK LEVELS			TANK LEVELS	
	Solvent			Solvent	
C-1		Empty	C-1		Empty
C-2		7' 9"	C-2		2' 4"
C-3		7' 10"	C-3		2' 5"
C-4		8'	C-4		2' 5"
C-5		8'	C-5		2' 6"
	Pre-Oil			Pre-Oil	
P-1		8' 3"	P-1		14'
P-2		Empty	P-2		14'
P-3		3' 10"	P-3		6'
P-4		Empty	P-4		Empty
P-5		5' 11"	P-5		6' 1"
	Sales			Sales	
S-1		Empty	S-1		Empty
S-2		3' 7"	S-2		3' 7"
S-3		Empty	S-3		Empty
S-4		13' 1"	S-4		13' 1"
S-5		5' 1"	S-5		5' 9"
	400-Bbl Upright	7'		400-Bbl Upright	5'
	Settling Tank	Empty		Settling Tank	Empty
	Diesel	1' 2"		Diesel	1' 2"
	Propane	32%		Propane	30%

Decanter 1

GPM	25		
BS&W 1	0.6	BS&W 4	
BS&W 2	0.6	BS&W 5	
BS&W 3	0.5 60 gpm	BS&W 6	

Swaco 1

GPM	20		
BS&W 1	0.7	BS&W 4	
BS&W 2	0.7	BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area _____ Temple

Sand Hauled to Staging Area 25 Crown

DATE 6/5/2021

START TIME	6:00 AM	END TIME	6:00 PM

TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	2' 5"	C-2	9'
C-3	2' 4"	C-3	9' 1"
C-4	2' 6"	C-4	9' 1"
C-5	2' 6"	C-5	9' 2"
Pre-Oil		Pre-Oil	
P-1	14'	P-1	Empty
P-2	14'	P-2	Empty
P-3	6'	P-3	Empty
P-4	Empty	P-4	Empty
P-5	6' 1"	P-5	5'
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	3' 7"	S-2	5' 8"
S-3	Empty	S-3	Empty
S-4	13' 1"	S-4	13' 1"
S-5	5' 1"	S-5	5' 9"
400-Bbl Upright	5'	400-Bbl Upright	5'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 2"	Diesel	1' 2"
Propane	29%	Propane	24%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area _____ Temple
Sand Hauled to Staging Area _____ Crown

MIX TANKS

DATE 5/26/2021

START TIME 6:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore
1	M1	40		2
2	M2	35		3
3	M1	40		2
4	M2	35		3
5	M1	40		2
6	M2	35		3
7	M1	40		2
8	M2	35		3
9	M1	40		2
10	M2	35		3
11	M1	40		2
12	M2	35		3
13				
14				
15				
16				
17				
18				
19				
20				

MIX TANKS

DATE 6/1/2021

START TIME 6:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore
1	M1	40		2
2	M2	35		3
3	M3	85		3
4	M1	40		2
5	M2	35		3
6	M3	80		4
7	M1	40		2
8	M2	35		3
9	M3	80		4
10	M1	40		2
11	M2	35		3
12				
13				
14				
15				
16				
17				
18				
19				
20				

MIX TANKS

DATE 6/3/2021

START TIME 6:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore
1	M3	80		4
2	M2	40		2
3	M1	35		3
4	M1			
5	M2			
6	M3			
7	M1			
8	M2			
9	M3			
10	M1			
11	M2			
12				
13				
14				
15				
16				
17				
18				
19				
20				

MIX TANKS

DATE 6/4/2021

START TIME 6:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore
1	M3	80		4
2	M2	35		3
3	M3	80		4
4	M2	35		3
5	M3	80		4
6	M2	35		4
7	M3	80		4
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

MIX TANKS

DATE 6/21/2021

START TIME 6:00 AM END TIME 6:00 AM

		Bbls of Solvent		Buckets of Ore	
1	M3	70		2	Crown Ore
2	M2	35		3	Crown Ore
3	M1	40		2	Crown Ore
4	M3	70		3	Crown Ore
5	M1	35		2	Crown Ore
6	M3	70		3	Crown Ore
7					
8					
9					
10					
11					
12					
13					
14					
15					

COMMENTS:

MIX TANKS

DATE 6/23/2021

START TIME 1:00 PM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore	
1	M3	70		4	Crown Ore
2	M2	35		3	Crown Ore
3	M3	70		4	Crown Ore
4	M2	35		3	Crown Ore
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

COMMENTS:

MIX TANKS

DATE 6/24/2021

START TIME 6:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore	
1	M3	70		4	Crown Ore
2	M2	35		3	Crown Ore
3	M1	40		2	Crown Ore
4	M3	70		4	Crown Ore
5	M2	35		3	Crown Ore
6	M1	40		2	Crown Ore
7					
8					
9					
10					
11					
12					
13					
14					
15					

COMMENTS:

MIX TANKS

DATE 6/26/2021

START TIME 6:00 AM END TIME 6:00 PM

		Bbls of Solvent		Buckets of Ore	
1	M3	70		4	Crown Ore
2	M2	35		3	Crown Ore
3	M1	40		2	Crown Ore
4	M3	70		4	Crown Ore
5	M2	35		3	Crown Ore
6	M1	40		2	Crown Ore
7					
8					
9					
10					
11					
12					
13					
14					
15					

COMMENTS: 6 Shaker Screens need replacing. Shaker tank and 400 bbl full of sand. Price water scheduled for Monday morning for cleaning.

DATE 6/21/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	2' 3"	C-2	2' 1"
C-3	2' 2"	C-3	2' 2"
C-4	10' 1"	C-4	2'
C-5	10' 2"	C-5	2'
Pre-Oil		Pre-Oil	
P-1	14'	P-1	14'
P-2	3' 11"	P-2	14'
P-3	2' 2"	P-3	6' 4"
P-4	Empty	P-4	Empty
P-5	6' 6"	P-5	6' 3"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	5' 8"	S-2	5' 8"
S-3	Empty	S-3	Empty
S-4	4' 9"	S-4	4' 9"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	Empty
Diesel	9 "	Diesel	9"
Propane	56%	Propane	55%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area _____ Temple

Sand Hauled to Staging Area 19 Crown

Trucks Received from Crown _____

DATE 6/22/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	2' 2"	C-2	2' 3"
C-3	2' 1"	C-3	11' 1"
C-4	2' 1"	C-4	11' 1"
C-5	2'	C-5	11' 2"
Pre-Oil		Pre-Oil	
P-1	14'	P-1	Empty
P-2	14'	P-2	Empty
P-3	6' 5"	P-3	Empty
P-4	Empty	P-4	Empty
P-5	6' 3"	P-5	6' 5"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	5' 8"	S-2	9' 8"
S-3	Empty	S-3	Empty
S-4	4' 9"	S-4	4' 9"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	Empty
Diesel	9 "	Diesel	6"
Propane	55%	Propane	50%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area _____ Temple
Sand Hauled to Staging Area _____ Crown

Trucks Received from Crown _____

DATE 6/23/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	2' 3"	C-2	2' 2"
C-3	11'	C-3	6' 9"
C-4	11'	C-4	6' 10"
C-5	11'1	C-5	6' 9"
Pre-Oil		Pre-Oil	
P-1	Empty	P-1	10' 7"
P-2	Empty	P-2	Empty
P-3	2' 5"	P-3	2' 5"
P-4	Empty	P-4	Empty
P-5	6' 5"	P-5	6' 5"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	9' 8"	S-2	Empty
S-3	Empty	S-3	Empty
S-4	4' 9"	S-4	13' 9"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	Empty
Diesel	6"	Diesel	1' 3"
Propane	50%	Propane	49%

Decanter 1

GPM	50		
BS&W 1	0.3	BS&W 4	0.4
BS&W 2	0.3	BS&W 5	0.3
BS&W 3	0.4	BS&W 6	0.3

Swaco 1

GPM	40		
BS&W 1	0.4	BS&W 4	0.4
BS&W 2	0.3	BS&W 5	0.3
BS&W 3	0.4	BS&W 6	0.3

Sand Hauled to Staging Area _____ Temple
Sand Hauled to Staging Area 11 Crown

Trucks Received from Crown _____

DATE 6/24/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	2' 2"	C-2	2'
C-3	6' 10"	C-3	2'
C-4	6' 10"	C-4	10' 2"
C-5	6' 9"	C-5	10' 1"
Pre-Oil		Pre-Oil	
P-1	10' 7"	P-1	14'
P-2	Empty	P-2	13' 2"
P-3	2' 5"	P-3	2' 5"
P-4	Empty	P-4	Empty
P-5	6' 5"	P-5	6' 3"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	13' 8"	S-4	13' 8"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 3"	Diesel	1' 3"
Propane	48%	Propane	47%

Decanter 1

GPM	50		
BS&W 1	0.3	BS&W 4	
BS&W 2	0.3	BS&W 5	
BS&W 3	0.4	BS&W 6	

Swaco 1

GPM	40		
BS&W 1	0.4	BS&W 4	
BS&W 2	0.3	BS&W 5	
BS&W 3	0.4	BS&W 6	

Sand Hauled to Staging Area _____ Temple
Sand Hauled to Staging Area _____ Crown

Trucks Hauled away by Price _____
Trucks Received from Crown _____
Trucks Hauling Sand away Goodrich 4

DATE 6/25/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		TANK LEVELS	
Solvent		Solvent	
C-1	Empty	C-1	Empty
C-2	2'	C-2	12' 11"
C-3	2' 1"	C-3	12' 10"
C-4	10' 3	C-4	10' 2"
C-5	10' 2"	C-5	10' 1"
Pre-Oil		Pre-Oil	
P-1	14'	P-1	Empty
P-2	13' 2"	P-2	Empty
P-3	2' 5"	P-3	Empty
P-4	Empty	P-4	Empty
P-5	6' 4"	P-5	6' 8"
Sales		Sales	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	13' 8"	S-4	15' 9"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 3"	Diesel	1' 2"
Propane	47%	Propane	42%

Decanter 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM			
BS&W 1		BS&W 4	
BS&W 2		BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area		Temple	
Sand Hauled to Staging Area		Crown	
Trucks Hauled away by Price	5		
Trucks Received from Crown			

DATE 6/26/2021

START TIME	6:00 AM	END TIME	6:00 PM
TANK LEVELS		**TANK LEVELS**	
Solvent		**Solvent**	
C-1	Empty	C-1	Empty
C-2	12' 10"	C-2	7' 2"
C-3	12' 11"	C-3	7' 2"
C-4	10' 1"	C-4	7' 4"
C-5	10' 1"	C-5	7' 5"
Pre-Oil		**Pre-Oil**	
P-1	Empty	P-1	14'
P-2	Empty	P-2	2' 2"
P-3	Empty	P-3	2' 5"
P-4	Empty	P-4	Empty
P-5	6' 8"	P-5	6' 5"
Sales		**Sales**	
S-1	Empty	S-1	Empty
S-2	Empty	S-2	Empty
S-3	Empty	S-3	Empty
S-4	15' 9"	S-4	15' 9"
S-5	5' 1"	S-5	5' 1"
400-Bbl Upright	4'	400-Bbl Upright	4'
Settling Tank	Empty	Settling Tank	Empty
Diesel	1' 2"	Diesel	1' 2"
Propane	42%	Propane	41%

Decanter 1

GPM	10		
BS&W 1	1	BS&W 4	
BS&W 2	0.4	BS&W 5	
BS&W 3		BS&W 6	

Swaco 1

GPM	20		
BS&W 1	1	BS&W 4	
BS&W 2	0.4	BS&W 5	
BS&W 3		BS&W 6	

Sand Hauled to Staging Area		Temple	
Sand Hauled to Staging Area	14	Crown	
Trucks Hauled away by Price			
Trucks Received from Crown			

Appendix B – Aspen HYSYS Process Simulation Data & Analysis

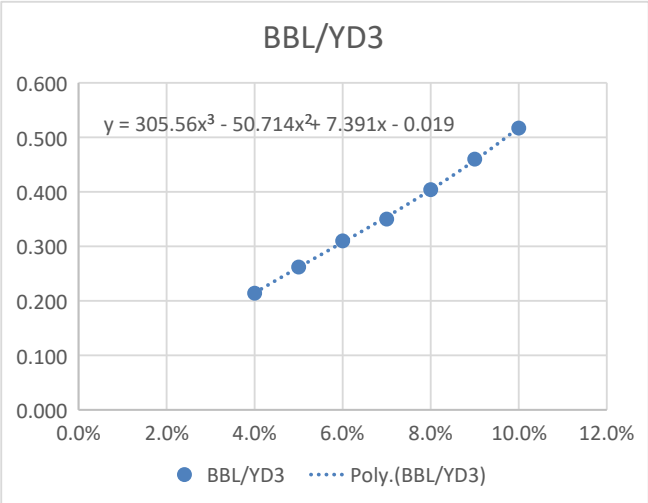
Greenfield Energy **Oil Sands** **Aspen HYSYS - Data Analysis**	*Kahuna Ventures LLC* *By: Greg Kruse*

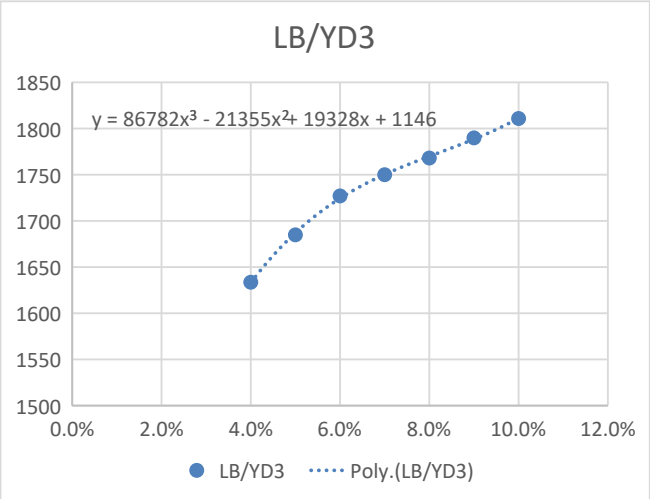
Simualted Solvent Feed		
Solvent	41,911.21	lb/hr

Simluated Ore Feed		
Sand	103,816.94	lb/hr
Bitumen	5,637.93	lb/hr
Oil Content	5.4%	
Total	109,454.87	lb/hr

Ore Sample Lab Analysis							
% by Weight	BBL/Ton	Gal/Ton	BBL/YD3	Gal/YD3	Ton/YD3	LB/YD3	LB/FT3
4.0%	0.262	11.004	0.214	8.988	0.817	1634	60.5
5.0%	0.311	13.062	0.262	11.004	0.842	1685	62.4
6.0%	0.359	15.078	0.310	13.020	0.864	1727	64.0
7.0%	0.400	16.800	0.350	14.700	0.875	1750	64.8
8.0%	0.457	19.194	0.404	16.968	0.884	1768	65.5
9.0%	0.514	21.588	0.460	19.320	0.895	1790	66.3
10.0%	0.571	23.982	0.517	21.714	0.905	1811	67.1
11.0%	0.652	27.384	0.572	24.024	0.877	1755	65.0
12.0%	0.701	29.442	0.628	26.376	0.896	1792	66.4
13.0%	0.750	31.500	0.683	28.686	0.911	1821	67.5

Ore Properties Polynomial Regressions							
Ore Density	1704.825558	lb/yd^3	*Theoretical Oil*	0.281247	bbl/yd^3		
Ore Flowrate	64.20297139	yd^3/hr		18.05688	bbl/hr	433.3652	bbl/day
	3.2	yd/bucket		0.89999	bbl/bucket		
	20.06342856	buckets/hr					



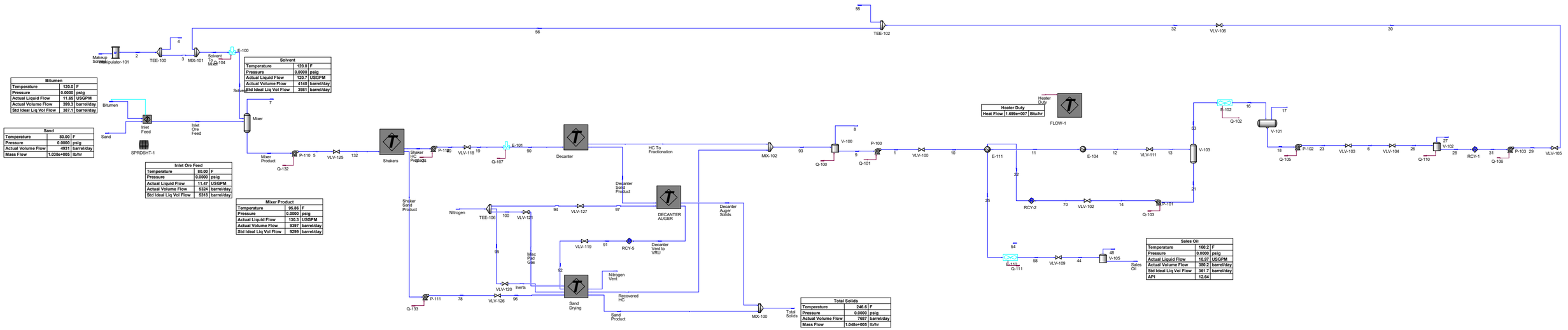


Greenfield Energy **Oil Sands** **Aspen HYSYS - Data Analysis**	*Kahuna Ventures LLC* *By: Greg Kruse*

Simulated Sales Oil						
Oil Total	5,096.00	lb/hr				
Sand	84.85	lb/hr				
MW Oil	385	lb/lbmol				
MW Sand	60.08	lb/lbmol				
Oil	13.236	lbmol/hr				
Sand	1.412	lbmol/hr				
Mole Frac Solvent	27.375	%	In Liquid Phase	30.30%		
Mole Frac Oil	62.98	%	In Liquid Phase	69.70%		
Mole Frac Sand	9.64	%				
Solvent	4.010	lbmol/hr				
Oil	9.226	lbmol/hr				
Sand	1.412	lbmol/hr				
MW Solvent	106.98		Weighted Average MW Oil			
MW Oil	454.60			321.40	lb/lbmol	
MW Sand	60.08					
Solvent	429.00	lb/hr	Solvent Loss	1.02%		
Oil	4194.26	lb/hr				
Sand	84.85	lb/hr				
Mass Frac Solvent	9.11%					
Mass Frac Oil	89.09%					
Mass Frac Sand	1.80%					
Oil Density	60.5	lb/ft3	14.42	API		
	326.6	bbl/day				
	61.3		12.54	API		
	322.4	bbl/day			**0.678**	bbl sales oil/bucket ore
Sand	90	lb/ft3				
	4.03	bbl/day				
Solvent	43.28	lb/ft3				
	42.37	bbl/day				

Fuel Usage			
Simulated Heater Duty	16,990,000.00	Btu/hr	
Fuel Per Bucket of Ore	846,814.39	Btu/bucket	
	1,058,517.99	Btu/bucket	at 80% efficiency
	90,905.00	Propane Btu/gallon	
	11.64	Gallons/bucket	

GREENFIELD ENERGY LLC.
GREENFIELD ENERGY REVAMP.
SIMULATION CASE - WITHOUT SOLVENT RECYCLE



Bitumen		
Temperature	120.0	F
Pressure	0.0000	psig
Actual Liquid Flow	11.60	USGPM
Actual Volume Flow	399.3	barrel/day
Std Ideal Liq Vol Flow	387.1	barrel/day

Sand		
Temperature	80.00	F
Pressure	0.0000	psig
Actual Volume Flow	4931	barrel/day
Mass Flow	1.038e+005	lb/hr

Inlet Ore Feed		
Temperature	80.00	F
Pressure	0.0000	psig
Actual Liquid Flow	11.47	USGPM
Actual Volume Flow	5324	barrel/day
Std Ideal Liq Vol Flow	5318	barrel/day

Solvent		
Temperature	120.0	F
Pressure	0.0000	psig
Actual Liquid Flow	120.7	USGPM
Actual Volume Flow	4140	barrel/day
Std Ideal Liq Vol Flow	3981	barrel/day

Mixer Product		
Temperature	95.86	F
Pressure	0.0000	psig
Actual Liquid Flow	130.3	USGPM
Actual Volume Flow	9397	barrel/day
Std Ideal Liq Vol Flow	9299	barrel/day

Total Solids		
Temperature	246.6	F
Pressure	0.0000	psig
Actual Volume Flow	7687	barrel/day
Mass Flow	1.048e+005	lb/hr

Heater Duty		
Heat Flow	1.699e+007	Btu/hr

Sales Oil		
Temperature	160.2	F
Pressure	0.0000	psig
Actual Liquid Flow	10.97	USGPM
Actual Volume Flow	380.2	barrel/day
Std Ideal Liq Vol Flow	361.7	barrel/day
API	12.64	

Aspen HYSYS Heat & Material Balance Stream Properties	*Unit*	Bitumen	Makeup Solvent	Solvent To Mixer	3	4	8	9	1	26	27	28	29	31	30	32	55
Vapour Fraction		0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
Temperature	*F*	120	120	120	120	120	100	100	100.335	120.744	100	100	100.131	100	100.218	100.277	100.277
Pressure	*psig*	0	0	0	0	0	0	0	68	0	0	0	25	0	10	0	0
Molar Flow	*MMSCFD*	0.11295	0.00896	3.56787	3.56787	-3.55891	0	3.59435	3.59435	3.46095	0	3.46095	3.46095	3.46095	3.46095	3.46095	3.46095
Mass Flow	*lb/hr*	5637.93	105.277	41911.2	41911.2	-41805.9	0	46057	46057	40875.7	0	40875.7	40875.7	40875.7	40875.7	40875.7	40875.7
Std Ideal Liq Vol Flow	*barrel/day*	387.086	10	3981.04	3981.04	-3971.04	0	4236.63	4236.63	3874.89	0	3874.89	3874.89	3874.89	3874.89	3874.89	3874.89
Heat Flow	*Btu/hr*	-5091192	-96113.3	-3.8E+07	-3.8E+07	3.8E+07	0	-4.2E+07	-4.2E+07	-3.7E+07	0	-3.8E+07	-3.8E+07	-3.8E+07	-3.8E+07	-3.8E+07	-3.8E+07
Molar Enthalpy	*Btu/lbmole*	-410487	-97666.5	-97666.5	-97666.5	-97666.5	-36746.3	-107509	-107465	-98140.9	-36819.2	-99286.7	-99271.6	-99286.7	-99271.6	-99271.6	-99271.6
Petroleum Property (API[Petrol])		10.241	64.5985	64.5985	64.5985	64.5985	65.1572	58.4037	58.4037	64.2051	65.1662	64.2051	64.2051	64.2051	64.2051	64.2051	64.2051
Petroleum Property (SG (60/60)[Petrol])		0.9983	0.72158	0.72158	0.72158	0.72158	0.71953	0.74511	0.74511	0.72303	0.71949	0.72303	0.72303	0.72303	0.72303	0.72303	0.72303
Petroleum Property (Std. Liquid Density[Petrol])	*lb/ft3*	62.2595	45.0015	45.0015	45.0015	45.0015	44.8736	46.4695	46.4695	45.0919	44.8716	45.0919	45.0919	45.0919	45.0919	45.0919	45.0919
Petroleum Property (TBP 0%[Petrol])	*F*	462.885	132.676	132.676	132.676	132.676	-343.532	132.065	132.065	132.935	-343.527	132.935	132.935	132.935	132.935	132.935	132.935
Petroleum Property (TBP 5%[Petrol])	*F*	519.882	158.924	158.924	158.924	158.924	-327.078	161.109	161.109	159.617	-327.055	159.617	159.617	159.617	159.617	159.617	159.617
Petroleum Property (TBP 10%[Petrol])	*F*	566.164	177.595	177.595	177.595	177.595	-320.663	181.088	181.088	178.576	-320.634	178.576	178.576	178.576	178.576	178.576	178.576
Petroleum Property (TBP 30%[Petrol])	*F*	895.006	213.283	213.283	213.283	213.283	147.507	219.425	219.425	214.238	147.633	214.238	214.238	214.238	214.238	214.238	214.238
Petroleum Property (TBP 50%[Petrol])	*F*	1034.92	239.779	239.779	239.779	239.779	181.01	245.24	245.24	240.465	181.169	240.465	240.465	240.465	240.465	240.465	240.465
Petroleum Property (TBP 70%[Petrol])	*F*	1175.68	265.016	265.016	265.016	265.016	210.899	275.081	275.081	265.959	210.933	265.959	265.959	265.959	265.959	265.959	265.959
Petroleum Property (TBP 90%[Petrol])	*F*	1379.38	303.957	303.957	303.957	303.957	248.549	328.899	328.899	306.264	248.602	306.264	306.264	306.264	306.264	306.264	306.264
Petroleum Property (TBP 95%[Petrol])	*F*	1476.8	319.983	319.983	319.983	319.983	266.522	957.19	957.19	322.089	266.557	322.089	322.089	322.089	322.089	322.089	322.089
Petroleum Property (TBP 100%[Petrol])	*F*	1754.74	362.096	362.096	362.096	362.096	355.733	1726.59	1726.59	852.296	353.074	852.296	852.296	852.296	852.296	852.296	852.296
Petroleum Property (D86 IBP[Petrol])	*F*	439.61	187.879	187.879	187.879	187.879	-425.691	188.864	188.864	188.215	-425.74	188.215	188.215	188.215	188.215	188.215	188.215
Petroleum Property (D86 5%[Petrol])	*F*	498.101	203.182	203.182	203.182	203.182	-419.975	206.73	206.73	203.935	-420.013	203.935	203.935	203.935	203.935	203.935	203.935
Petroleum Property (D86 10%[Petrol])	*F*	519.065	207.828	207.828	207.828	207.828	-419.186	211.929	211.929	208.7	-419.224	208.7	208.7	208.7	208.7	208.7	208.7
Petroleum Property (D86 30%[Petrol])	*F*	873.689	223.808	223.808	223.808	223.808	161.452	229.588	229.588	224.663	161.583	224.663	224.663	224.663	224.663	224.663	224.663
Petroleum Property (D86 50%[Petrol])	*F*	993.487	238.803	238.803	238.803	238.803	181.553	244.104	244.104	239.469	181.709	239.469	239.469	239.469	239.469	239.469	239.469
Petroleum Property (D86 70%[Petrol])	*F*	1128.01	255.344	255.344	255.344	255.344	201.883	264.394	264.394	256.215	201.935	256.215	256.215	256.215	256.215	256.215	256.215
Petroleum Property (D86 90%[Petrol])	*F*	1390.1	284.627	284.627	284.627	284.627	229.888	309.348	309.348	286.865	229.959	286.865	286.865	286.865	286.865	286.865	286.865
Petroleum Property (D86 95%[Petrol])	*F*	1447.18	303.88	303.88	303.88	303.88	250.516	484.728	484.728	305.972	250.575	305.972	305.972	305.972	305.972	305.972	305.972
Petroleum Property (D86 FBP[Petrol])	*F*	1518.7	326.458	326.458	326.458	326.458	290.349	593.199	593.199	448.034	289.494	448.034	448.034	448.034	448.034	448.034	448.034
Petroleum Property (Sulfur Wt Pct[Petrol])	*%*	0.411	0.1404	0.1404	0.1404	0.1404	0.10816	0.16962	0.16962	0.14014	0.10825	0.14014	0.14014	0.14014	0.14014	0.14014	0.14014
Petroleum Property (Nitrogen Content[Petrol])	*ppmwt*	10300	10.2806	10.2806	10.2806	10.2806	9.12204	1132.55	1132.55	10.7446	9.12647	10.7446	10.7446	10.7446	10.7446	10.7446	10.7446
Petroleum Property (Basic Nitrogen Content[Petrol])	*ppmwt*	2785.65	82.8083	82.8083	82.8083	82.8083	92.6519	377.333	377.333	91.0307	92.6858	91.0307	91.0307	91.0307	91.0307	91.0307	91.0307
Petroleum Property (Conradson Carbon Content[Petrol])	*%*	11.5177	0.46848	0.46848	0.46848	0.46848	0.47322	1.67103	1.67103	0.46299	0.47348	0.46299	0.46299	0.46299	0.46299	0.46299	0.46299
Petroleum Property (RON (Clear)[Petrol])		0	49.1404	49.1404	49.1404	49.1404	<empty>	45.0129	45.0129	48.7112	<empty>	48.7112	48.7112	48.7112	48.7112	48.7112	48.7112
Petroleum Property (MON (Clear)[Petrol])		2.55373	48.1067	48.1067	48.1067	48.1067	<empty>	44.2779	44.2779	47.7281	<empty>	47.7281	47.7281	47.7281	47.7281	47.7281	47.7281
Petroleum Property (Cetane Idx D4737[Petrol])		-43.8945	45.78	45.78	45.78	45.78	95.0671	34.228	34.228	45.0674	95.1498	45.0674	45.0674	45.0674	45.0674	45.0674	45.0674
Petroleum Property (Kinematic Viscosity @ X C[Petrol])	*cSt*	1492994	0.68061	0.68061	0.68061	0.68061	0.62715	0.89221	0.89218	0.68564	0.62714	0.68564	0.68563	0.68564	0.68564	0.68564	0.68564
Petroleum Property (Reid Vapour Pressure[Petrol])	*psig*	-14.6956	-13.0636	-13.0636	-13.0636	-13.0636	<empty>	-11.4737	-11.4737	-11.4142	<empty>	-11.4142	-11.4142	-11.4142	-11.4142	-11.4142	-11.4142
Petroleum Property (Flash Point[Petrol])	*F*	314.179	21.7681	21.7681	21.7681	21.7681	<empty>	25.1319	25.1319	22.4846	<empty>	22.4846	22.4846	22.4846	22.4846	22.4846	22.4846
Petroleum Property (Cloud Point[Petrol])	*F*	-6.71647	-48.3093	-48.3093	-48.3093	-48.3093	<empty>	-41.5095	-41.5095	-48.4625	<empty>	-48.4625	-48.4625	-48.4625	-48.4625	-48.4625	-48.4625
Petroleum Property (Pour Point[Petrol])	*F*	-7.51764	60.679	60.679	60.679	60.679	60.5322	58.1135	58.1135	60.3553	60.5468	60.3553	60.3553	60.3553	60.3553	60.3553	60.3553
Petroleum Property (Aniline Point[Petrol])	*F*	202.549	-0.51871	-0.51871	-0.51871	-0.51871	-105.26	15.7181	15.7181	0.06125	-104.971	0.06125	0.06125	0.06125	0.06125	0.06125	0.06125
Petroleum Property (Paraffins by Volume[Petrol])	*%*	3.21072	68.7443	68.7443	68.7443	68.7443	60.2097	63.2458	63.2458	68.2332	60.2442	68.2332	68.2332	68.2332	68.2332	68.2332	68.2332
Petroleum Property (Olefins by Volume[Petrol])	*%*	0	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Naphthenes by Volume[Petrol])	*%*	49.9891	19.5854	19.5854	19.5854	19.5854	12.9146	22.0906	22.0906	19.9028	12.9302	19.9028	19.9028	19.9028	19.9028	19.9028	19.9028
Petroleum Property (Aromatics by Volume[Petrol])	*%*	46.8001	11.6702	11.6702	11.6702	11.6702	6.41631	14.5645	14.5645	11.8598	6.42649	11.8598	11.8598	11.8598	11.8598	11.8598	11.8598

Aspen HYSYS Heat & Material Balance Stream Properties	*Unit*	56	Nitrogen Vent	2	Inlet Ore Feed	Sand	Mixer Product	7	5	78	Sand Product	Recovered HC	96	89	90	132	Shaker HC Product
Vapour Fraction		0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Temperature	*F*	100.277	120	120	80.0001	80	95.8611	95.8611	98.4426	98.878	250	120.192	98.8916	98.7526	120	98.4828	98.602
Pressure	*psig*	0	30	0	0	0	0	0	60	30	0	10	0	30	-5	45	0
Molar Flow	*MMSCFD*	0	0.71554	<empty>	15.8496	15.7367	19.4175	0	19.4175	15.79	15.4393	0.30188	15.79	3.62747	3.62747	19.4175	3.62747
Mass Flow	*lb/hr*	0	2566.84	105.277	109455	103817	151366	0	151366	106496	102373	3605.84	106496	44870.6	44870.6	151366	44870.6
Std Ideal Liq Vol Flow	*barrel/day*	0	224.935	<empty>	5317.9	4930.82	9298.94	0	9298.94	5269.01	4877.6	340.603	5269.01	4029.93	4029.93	9298.94	4029.93
Heat Flow	*Btu/hr*	0	-377120	-96113.3	-8.7E+07	-8.1E+07	-1.2E+08	0	-1.2E+08	-8.4E+07	-7.5E+07	-3288488	-8.4E+07	-4.1E+07	-4.1E+07	-1.2E+08	-4.1E+07
Molar Enthalpy	*Btu/lbmole*	-99271.6	-4799.75	-97666.5	-49762.2	-47118.1	-58564.4	-74340.7	-58495.8	-48235.1	-44067.1	-99207.2	-48235.1	-103119	-101951	-58495.8	-103137
Petroleum Property (API[Petrol])		64.2051	49.4115	64.5985	-31.1972	-33.4475	-4.67264	71.676	-4.67264	-29.3576	-33.1381	63.5073	-29.3576	53.9146	53.9146	-4.67264	53.9146
Petroleum Property (SG (60/60)[Petrol])		0.72303	0.78215	0.72158	1.41073	1.4431	1.11569	0.69644	1.11569	1.38532	1.43857	0.72561	1.38532	0.76315	0.76315	1.11569	0.76315
Petroleum Property (Std. Liquid Density[Petrol])	*lb/ft3*	45.0919	48.7792	45.0015	87.9808	90	69.5806	43.4339	69.5806	86.3963	89.7169	45.2533	86.3963	47.5945	47.5945	69.5806	47.5945
Petroleum Property (TBP 0%[Petrol])	*F*	132.935	-320.44	132.676	<empty>	<empty>	<empty>	120.353	<empty>	<empty>	<empty>	137.117	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (TBP 5%[Petrol])	*F*	159.617	-320.44	158.924	<empty>	<empty>	<empty>	136.795	<empty>	<empty>	<empty>	169.734	<empty>	149.559	149.559	<empty>	149.559
Petroleum Property (TBP 10%[Petrol])	*F*	178.576	-320.44	177.595	<empty>	<empty>	<empty>	144.249	<empty>	<empty>	<empty>	189.077	<empty>	172.404	172.404	<empty>	172.404
Petroleum Property (TBP 30%[Petrol])	*F*	214.238	-416.937	213.283	<empty>	<empty>	<empty>	169.623	<empty>	<empty>	<empty>	222.895	<empty>	215.122	215.122	<empty>	215.122
Petroleum Property (TBP 50%[Petrol])	*F*	240.465	-318.146	239.779	<empty>	<empty>	<empty>	197.312	<empty>	<empty>	<empty>	245.165	<empty>	243.737	243.737	<empty>	243.737
Petroleum Property (TBP 70%[Petrol])	*F*	265.959	-314.096	265.016	<empty>	<empty>	228.017	220.923	228.017	<empty>	<empty>	269.942	<empty>	274.345	274.345	228.017	274.345
Petroleum Property (TBP 90%[Petrol])	*F*	306.264	204.744	303.957	<empty>	<empty>	293.99	253.924	293.99	<empty>	<empty>	308.204	<empty>	331.312	331.312	293.99	331.312
Petroleum Property (TBP 95%[Petrol])	*F*	322.089	227.988	319.983	905.168	<empty>	328.947	271.552	328.947	232.279	<empty>	322.325	232.279	981.519	981.519	328.947	981.519
Petroleum Property (TBP 100%[Petrol])	*F*	852.296	339.826	362.096	1728.61	<empty>	1725.8	360.337	1725.8	1706.89	1703.89	667.641	1706.89	1727.16	1727.16	1725.8	1727.16
Petroleum Property (D86 IBP[Petrol])	*F*	188.215	<empty>	187.879	<empty>	<empty>	<empty>	164.707	<empty>	<empty>	<empty>	191.733	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 5%[Petrol])	*F*	203.935	<empty>	203.182	<empty>	<empty>	<empty>	170.693	<empty>	<empty>	<empty>	212.21	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 10%[Petrol])	*F*	208.7	<empty>	207.828	<empty>	<empty>	<empty>	171.705	<empty>	<empty>	<empty>	217.137	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 30%[Petrol])	*F*	224.663	<empty>	223.808	<empty>	<empty>	<empty>	181.632	<empty>	<empty>	<empty>	231.961	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 50%[Petrol])	*F*	239.469	<empty>	238.803	<empty>	<empty>	<empty>	197.475	<empty>	<empty>	<empty>	244.031	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 70%[Petrol])	*F*	256.215	<empty>	255.344	<empty>	<empty>	<empty>	212.725	<empty>	<empty>	<empty>	260.205	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 90%[Petrol])	*F*	286.865	<empty>	284.627	<empty>	<empty>	<empty>	236.244	<empty>	<empty>	<empty>	288.814	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 95%[Petrol])	*F*	305.972	<empty>	303.88	<empty>	<empty>	<empty>	256.634	<empty>	<empty>	<empty>	306.654	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (D86 FBP[Petrol])	*F*	448.034	<empty>	326.458	<empty>	<empty>	<empty>	296.443	<empty>	<empty>	<empty>	414.106	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Sulfur Wt Pct[Petrol])	*%*	0.14014	0.02831	0.1404	<empty>	<empty>	<empty>	0.14039	<empty>	<empty>	<empty>	0.13995	<empty>	0.1645	0.1645	<empty>	0.1645
Petroleum Property (Nitrogen Content[Petrol])	*ppmwt*	10.7446	2.34479	10.2806	<empty>	<empty>	<empty>	11.8933	<empty>	<empty>	<empty>	10.208	<empty>	1173.41	1173.41	<empty>	1173.41
Petroleum Property (Basic Nitrogen Content[Petrol])	*ppmwt*	91.0307	24.4738	82.8083	<empty>	<empty>	<empty>	121.023	<empty>	<empty>	<empty>	81.2982	<empty>	384.624	384.624	<empty>	384.624
Petroleum Property (Conradson Carbon Content[Petrol])	*%*	0.46299	0.12509	0.46848	<empty>	<empty>	<empty>	0.61695	<empty>	<empty>	<empty>	0.44646	<empty>	1.69629	1.69629	<empty>	1.69629
Petroleum Property (RON (Clear)[Petrol])		48.7112	<empty>	49.1404	<empty>	<empty>	<empty>	54.9361	<empty>	<empty>	<empty>	48.1414	<empty>	43.6898	43.6898	<empty>	43.6898
Petroleum Property (MON (Clear)[Petrol])		47.7281	<empty>	48.1067	<empty>	<empty>	<empty>	53.5172	<empty>	<empty>	<empty>	47.1782	<empty>	42.9915	42.9915	<empty>	42.9915
Petroleum Property (Cetane Idx D4737[Petrol])		45.0674	<empty>	45.78	<empty>	<empty>	<empty>	48.4817	<empty>	<empty>	<empty>	44.9264	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Kinematic Viscosity @ X C[Petrol])	*cSt*	0.68564	0.42084	0.68061	1722102	<empty>	3.04186	0.63394	3.0451	9.11659	5249.17	0.69048	9.11689	0.87637	0.87637	3.04429	0.87637
Petroleum Property (Reid Vapour Pressure[Petrol])	*psig*	-11.4142	<empty>	-13.0636	-14.6956	-14.466	-13.0726	-11.3976	-13.0726	-13.0726	-7.17314	5.70003	-13.0726	-13.0726	-13.0726	-13.0726	-13.0726
Petroleum Property (Flash Point[Petrol])	*F*	22.4846	<empty>	21.7681	<empty>	<empty>	<empty>	-8.2985	<empty>	<empty>	<empty>	61.7814	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Cloud Point[Petrol])	*F*	-48.4625	<empty>	-48.3093	<empty>	<empty>	<empty>	-54.9342	<empty>	<empty>	<empty>	-47.6031	<empty>	-41.712	-41.712	<empty>	-41.712
Petroleum Property (Pour Point[Petrol])	*F*	60.3553	18.7344	60.679	<empty>	<empty>	<empty>	68.3019	<empty>	<empty>	<empty>	59.3585	<empty>	58.0023	58.0023	<empty>	58.0023
Petroleum Property (Aniline Point[Petrol])	*F*	0.06125	-358.554	-0.51871	-411.468	0	-235.533	-14.4366	-235.533	-420.114	-453.789	1.25392	-420.114	5.80008	5.80008	-235.533	5.80008
Petroleum Property (Paraffins by Volume[Petrol])	*%*	68.2332	17.1435	68.7443	<empty>	<empty>	<empty>	75.8691	<empty>	<empty>	<empty>	67.5231	<empty>	61.3969	61.3969	<empty>	61.3969
Petroleum Property (Olefins by Volume[Petrol])	*%*	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Naphthenes by Volume[Petrol])	*%*	19.9028	3.69479	19.5854	<empty>	<empty>	<empty>	16.1485	<empty>	<empty>	<empty>	20.1917	<empty>	21.7345	21.7345	<empty>	21.7345
Petroleum Property (Aromatics by Volume[Petrol])	*%*	11.8598	1.82378	11.6702	<empty>	<empty>	<empty>	7.98239	<empty>	<empty>	<empty>	12.2368	<empty>	14.4215	14.4215	<empty>	14.4215

Aspen HYSYS Heat & Material Balance Stream Properties	Unit	Shaker Sand Product	HC To Fractionation	Decanter Solid Product	Decanter Vent to VRU	Decanter Auger Solids	91	92	Inerts	Nitrogen	94	95	97	Total Solids	93	100	Misc Pad Gas
Vapour Fraction		0	0	0	0.75174	0	0.75174	0.75174	1	1	1	1	1	0.00073	0	1	1
Temperature	F	98.6022	119.972	119.97	199.349	120.206	199.349	199.349	119.345	120	120	120	116.235	246.562	119.989	120	115.957
Pressure	psig	0	0	0	0	0	0	0	125	150	150	150	10	0	0	150	0
Molar Flow	MMSCFD	15.79	3.29248	0.335	0	0.335	0	0	0.33333	0.66666	0	0.33333	0	15.7743	3.59435	0.33333	0.33333
Mass Flow	lb/hr	106496	42451.1	2419.43	0	2419.43	0	0	1025.32	2050.64	0	1025.32	0	104793	46057	1025.32	1025.32
Std Ideal Liq Vol Flow	barrel/day	5269.01	3896.03	133.9	0	133.9	0	0	87.0636	174.127	0	87.0636	0	5011.5	4236.63	87.0636	87.0636
Heat Flow	Btu/hr	-8.4E+07	-3.9E+07	-1928923	0	-1928730	0	0	9838.17	19676.3	0	9838.17	0	-7.7E+07	-4.2E+07	9838.17	9838.17
Molar Enthalpy	Btu/lbmole	-48240.4	-106989	-52437.9	-73822.8	-52432.7	-73822.8	-73822.8	268.791	268.791	268.791	268.791	268.791	-44244.7	-106335	268.791	268.791
Petroleum Property (API[Petrol])		-29.3576	57.9702	-17.2454	71.2293	-17.2454	71.2293	71.2293	43.8013	43.8013	43.8013	43.8013	43.8013	-32.7712	58.4037	43.8013	43.8013
Petroleum Property (SG (60/60)[Petrol])		1.38532	0.74682	1.23846	0.69798	1.23846	0.69798	0.69798	0.80718	0.80718	0.80718	0.80718	0.80718	1.43322	0.74511	0.80718	0.80718
Petroleum Property (Std. Liquid Density[Petrol])	lb/ft3	86.3963	46.5758	77.2374	43.5296	77.2374	43.5296	43.5296	50.3403	50.3403	50.3403	50.3403	50.3403	89.3835	46.4695	50.3403	50.3403
Petroleum Property (TBP 0%[Petrol])	F	<empty>	131.721	<empty>	120.452	<empty>	120.452	120.452	-328.192	-328.192	-328.192	-328.192	-328.192	<empty>	132.065	-328.192	-328.192
Petroleum Property (TBP 5%[Petrol])	F	<empty>	160.451	<empty>	137.575	<empty>	137.575	137.575	-327.487	-327.487	-327.487	-327.487	-327.487	<empty>	161.109	-327.487	-327.487
Petroleum Property (TBP 10%[Petrol])	F	<empty>	180.368	<empty>	145.367	<empty>	145.367	145.367	-326.704	-326.704	-326.704	-326.704	-326.704	<empty>	181.088	-326.704	-326.704
Petroleum Property (TBP 30%[Petrol])	F	<empty>	218.962	<empty>	172.186	<empty>	172.186	172.186	-323.572	-323.572	-323.572	-323.572	-323.572	<empty>	219.425	-323.572	-323.572
Petroleum Property (TBP 50%[Petrol])	F	<empty>	245.248	<empty>	199.972	<empty>	199.972	199.972	-320.44	-320.44	-320.44	-320.44	-320.44	<empty>	245.24	-320.44	-320.44
Petroleum Property (TBP 70%[Petrol])	F	<empty>	275.641	<empty>	223.759	<empty>	223.759	223.759	-317.309	-317.309	-317.309	-317.309	-317.309	<empty>	275.081	-317.309	-317.309
Petroleum Property (TBP 90%[Petrol])	F	<empty>	333.001	268.61	256.65	268.61	256.65	256.65	-314.177	-314.177	-314.177	-314.177	-314.177	<empty>	328.899	-314.177	-314.177
Petroleum Property (TBP 95%[Petrol])	F	232.279	991.178	307.508	274.64	307.508	274.64	274.64	-313.394	-313.394	-313.394	-313.394	-313.394	<empty>	957.19	-313.394	-313.394
Petroleum Property (TBP 100%[Petrol])	F	1706.89	1727.4	1722.03	476.12	1722.03	476.12	476.12	-312.611	-312.611	-312.611	-312.611	-312.611	1705.02	1726.59	-312.611	-312.611
Petroleum Property (D86 IBP[Petrol])	F	<empty>	188.667	<empty>	165.933	<empty>	165.933	165.933	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	188.864	<empty>	<empty>
Petroleum Property (D86 5%[Petrol])	F	<empty>	206.268	<empty>	172.343	<empty>	172.343	172.343	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	206.73	<empty>	<empty>
Petroleum Property (D86 10%[Petrol])	F	<empty>	211.44	<empty>	173.432	<empty>	173.432	173.432	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	211.929	<empty>	<empty>
Petroleum Property (D86 30%[Petrol])	F	<empty>	229.264	<empty>	184.157	<empty>	184.157	184.157	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	229.588	<empty>	<empty>
Petroleum Property (D86 50%[Petrol])	F	<empty>	244.112	<empty>	200.07	<empty>	200.07	200.07	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	244.104	<empty>	<empty>
Petroleum Property (D86 70%[Petrol])	F	<empty>	264.861	<empty>	215.459	<empty>	215.459	215.459	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	264.394	<empty>	<empty>
Petroleum Property (D86 90%[Petrol])	F	<empty>	313.773	<empty>	238.874	<empty>	238.874	238.874	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	309.348	<empty>	<empty>
Petroleum Property (D86 95%[Petrol])	F	<empty>	494.13	<empty>	259.515	<empty>	259.515	259.515	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	484.728	<empty>	<empty>
Petroleum Property (D86 FBP[Petrol])	F	<empty>	597.221	<empty>	331.965	<empty>	331.965	331.965	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	593.199	<empty>	<empty>
Petroleum Property (Sulfur Wt Pct[Petrol])	%	<empty>	0.17214	<empty>	0.14036	<empty>	0.14036	0.14036	0	0	0	0	0	<empty>	0.16962	0	0
Petroleum Property (Nitrogen Content[Petrol])	ppmwt	<empty>	1227.88	<empty>	11.7564	<empty>	11.7564	11.7564	0	0	0	0	0	<empty>	1132.55	0	0
Petroleum Property (Basic Nitrogen Content[Petrol])	ppmwt	<empty>	402.479	<empty>	118.749	<empty>	118.749	118.749	0	0	0	0	0	<empty>	377.333	0	0
Petroleum Property (Conradson Carbon Content[Petrol])	%	<empty>	1.77504	<empty>	0.60854	<empty>	0.60854	0.60854	0	0	0	0	0	<empty>	1.67103	0	0
Petroleum Property (RON (Clear)[Petrol])		<empty>	44.7394	<empty>	54.6316	<empty>	54.6316	54.6316	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	45.0129	<empty>	<empty>
Petroleum Property (MON (Clear)[Petrol])		<empty>	44.0244	<empty>	53.2412	<empty>	53.2412	53.2412	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	44.2779	<empty>	<empty>
Petroleum Property (Cetane Idx D4737[Petrol])		<empty>	33.4549	<empty>	48.3381	<empty>	48.3381	48.3381	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	34.228	<empty>	<empty>
Petroleum Property (Kinematic Viscosity @ X C[Petrol])	cSt	9.11689	0.89143	21.4557	0.63446	21.4557	0.63446	0.63446	0.28419	0.26897	0.26897	0.26897	0.50674	51.6166	0.85816	0.26897	0.6025
Petroleum Property (Reid Vapour Pressure[Petrol])	psig	-13.0726	-13.0991	-13.0726	-11.5113	-13.0726	-11.5113	-11.5113	<empty>	<empty>	<empty>	<empty>	<empty>	-11.1739	-11.4737	<empty>	<empty>
Petroleum Property (Flash Point[Petrol])	F	<empty>	24.7312	<empty>	-6.84436	<empty>	-6.84436	-6.84436	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	25.1319	<empty>	<empty>
Petroleum Property (Cloud Point[Petrol])	F	<empty>	-41.0337	<empty>	-54.6509	<empty>	-54.6509	-54.6509	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	-41.5095	<empty>	<empty>
Petroleum Property (Pour Point[Petrol])	F	<empty>	58.0023	<empty>	67.8952	<empty>	67.8952	67.8952	-346.09	-346.09	-346.09	-346.09	-346.09	<empty>	58.1135	-346.09	-346.09
Petroleum Property (Aniline Point[Petrol])	F	-420.114	16.9828	-319.579	-13.5096	-319.579	-13.5096	-13.5096	0	0	0	0	0	-450.203	15.7181	0	0
Petroleum Property (Paraffins by Volume[Petrol])	%	<empty>	62.8719	<empty>	75.3968	<empty>	75.3968	75.3968	0	0	0	0	0	<empty>	63.2458	0	0
Petroleum Property (Olefins by Volume[Petrol])	%	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	0	0	0	0	0	<empty>	<empty>	0	0
Petroleum Property (Naphthenes by Volume[Petrol])	%	<empty>	22.2566	<empty>	16.3833	<empty>	16.3833	16.3833	0	0	0	0	0	<empty>	22.0906	0	0
Petroleum Property (Aromatics by Volume[Petrol])	%	<empty>	14.768	<empty>	8.21996	<empty>	8.21996	8.21996	0	0	0	0	0	<empty>	14.5645	0	0

Aspen HYSYS Heat & Material Balance Stream Properties	*Unit*	11	12	13	16	17	18	21	22	25	23	44	48	Sales Oil	53	70	54
Vapour Fraction		0	0.8977	0.96289	0	1	0	0	0	0	0	0	1	0	1	0	0
Temperature	*F*	121.063	375	356.127	120	120	120	356.127	356.36	176	120.354	160.221	160.221	160.221	356.127	356.36	356.412
Pressure	*psig*	53	48	8	6	6	6	8	43	38	71	0	0	0	8	43	33
Molar Flow	*MMSCFD*	3.59435	3.59435	3.59435	3.46095	0	3.46095	0.1334	0.1334	0.1334	3.46095	0.1334	0	0.1334	3.46095	0.1334	0.1334
Mass Flow	*lb/hr*	46057	46057	46057	40875.7	0	40875.7	5181.25	5181.25	5181.25	40875.7	5181.25	0	5181.25	40875.7	5181.25	5181.25
Std Ideal Liq Vol Flow	*barrel/day*	4236.63	4236.63	4236.63	3874.89	0	3874.89	361.742	361.742	361.742	3874.89	361.742	0	361.742	3874.89	361.742	361.742
Heat Flow	*Btu/hr*	-4.2E+07	-3.1E+07	-3.1E+07	-3.7E+07	0	-3.7E+07	-4061150	-4059956	-4538211	-3.7E+07	-4576522	0	-4576522	-2.7E+07	-4059956	-4059956
Molar Enthalpy	*Btu/lbmole*	-106254	-78269.6	-78269.6	-98180.6	-45296.5	-98180.6	-277246	-277165	-309814	-98140.9	-312430	-77345.8	-312430	-70600.2	-277165	-277165
Petroleum Property (API[Petrol])		58.4037	58.4037	58.4037	64.2051	66.8792	64.2051	12.636	12.636	12.636	64.2051	12.636	66.5275	12.636	64.2051	12.636	12.636
Petroleum Property (SG (60/60)[Petrol])		0.74511	0.74511	0.74511	0.72303	0.71328	0.72303	0.98171	0.98171	0.98171	0.72303	0.98171	0.71455	0.98171	0.72303	0.98171	0.98171
Petroleum Property (Std. Liquid Density[Petrol])	*lb/ft3*	46.4695	46.4695	46.4695	45.0919	44.4841	45.0919	61.225	61.225	61.225	45.0919	61.225	44.5631	61.225	45.0919	61.225	61.225
Petroleum Property (TBP 0%[Petrol])	*F*	132.065	132.065	132.065	132.935	-342.102	132.935	<empty>	<empty>	<empty>	132.935	<empty>	126.255	<empty>	132.935	<empty>	<empty>
Petroleum Property (TBP 5%[Petrol])	*F*	161.109	161.109	161.109	159.617	-323.552	159.617	244.224	244.224	244.224	159.617	244.224	149.416	244.224	159.617	244.224	244.224
Petroleum Property (TBP 10%[Petrol])	*F*	181.088	181.088	181.088	178.576	-316.32	178.576	299.07	299.07	299.07	178.576	299.07	163.199	299.07	178.576	299.07	299.07
Petroleum Property (TBP 30%[Petrol])	*F*	219.425	219.425	219.425	214.238	157.695	214.238	867.455	867.455	867.455	214.238	867.455	203.467	867.455	214.238	867.455	867.455
Petroleum Property (TBP 50%[Petrol])	*F*	245.24	245.24	245.24	240.465	190.533	240.465	1018.51	1018.51	1018.51	240.465	1018.51	226.624	1018.51	240.465	1018.51	1018.51
Petroleum Property (TBP 70%[Petrol])	*F*	275.081	275.081	275.081	265.959	216.188	265.959	1164.45	1164.45	1164.45	265.959	1164.45	249.61	1164.45	265.959	1164.45	1164.45
Petroleum Property (TBP 90%[Petrol])	*F*	328.899	328.899	328.899	306.264	253.15	306.264	1372.13	1372.13	1372.13	306.264	1372.13	287.071	1372.13	306.264	1372.13	1372.13
Petroleum Property (TBP 95%[Petrol])	*F*	957.19	957.19	957.19	322.089	271.361	322.089	1470.96	1470.96	1470.96	322.089	1470.96	306.421	1470.96	322.089	1470.96	1470.96
Petroleum Property (TBP 100%[Petrol])	*F*	1726.59	1726.59	1726.59	852.296	362.771	852.296	1754.54	1754.54	1754.54	852.296	1754.54	614.01	1754.54	852.296	1754.54	1754.54
Petroleum Property (D86 IBP[Petrol])	*F*	188.864	188.864	188.864	188.215	-427.464	188.215	<empty>	<empty>	<empty>	188.215	<empty>	180.013	<empty>	188.215	<empty>	<empty>
Petroleum Property (D86 5%[Petrol])	*F*	206.73	206.73	206.73	203.935	-420.488	203.935	<empty>	<empty>	<empty>	203.935	<empty>	191.628	<empty>	203.935	<empty>	<empty>
Petroleum Property (D86 10%[Petrol])	*F*	211.929	211.929	211.929	208.7	-419.526	208.7	<empty>	<empty>	<empty>	208.7	<empty>	194.435	<empty>	208.7	<empty>	<empty>
Petroleum Property (D86 30%[Petrol])	*F*	229.588	229.588	229.588	224.663	171.254	224.663	<empty>	<empty>	<empty>	224.663	<empty>	213.348	<empty>	224.663	<empty>	<empty>
Petroleum Property (D86 50%[Petrol])	*F*	244.104	244.104	244.104	239.469	190.858	239.469	<empty>	<empty>	<empty>	239.469	<empty>	226.022	<empty>	239.469	<empty>	<empty>
Petroleum Property (D86 70%[Petrol])	*F*	264.394	264.394	264.394	256.215	207.733	256.215	<empty>	<empty>	<empty>	256.215	<empty>	240.782	<empty>	256.215	<empty>	<empty>
Petroleum Property (D86 90%[Petrol])	*F*	309.348	309.348	309.348	286.865	235.062	286.865	<empty>	<empty>	<empty>	286.865	<empty>	268.601	<empty>	286.865	<empty>	<empty>
Petroleum Property (D86 95%[Petrol])	*F*	484.728	484.728	484.728	305.972	255.855	305.972	<empty>	<empty>	<empty>	305.972	<empty>	290.167	<empty>	305.972	<empty>	<empty>
Petroleum Property (D86 FBP[Petrol])	*F*	593.199	593.199	593.199	448.034	296.348	448.034	<empty>	<empty>	<empty>	448.034	<empty>	386.943	<empty>	448.034	<empty>	<empty>
Petroleum Property (Sulfur Wt Pct[Petrol])	*%*	0.16962	0.16962	0.16962	0.14014	0.11862	0.14014	0.40217	0.40217	0.40217	0.14014	0.40217	0.14006	0.40217	0.14014	0.40217	0.40217
Petroleum Property (Nitrogen Content[Petrol])	*ppmwt*	1132.55	1132.55	1132.55	10.7446	9.90087	10.7446	9982.64	9982.64	9982.64	10.7446	9982.64	10.655	9982.64	10.7446	9982.64	9982.64
Petroleum Property (Basic Nitrogen Content[Petrol])	*ppmwt*	377.333	377.333	377.333	91.0307	99.8591	91.0307	2636.02	2636.02	2636.02	91.0307	2636.02	94.7936	2636.02	91.0307	2636.02	2636.02
Petroleum Property (Conradson Carbon Content[Petrol])	*%*	1.67103	1.67103	1.67103	0.46299	0.51255	0.46299	11.2014	11.2014	11.2014	0.46299	11.2014	0.51419	11.2014	0.46299	11.2014	11.2014
Petroleum Property (RON (Clear)[Petrol])		45.0129	45.0129	45.0129	48.7112	<empty>	48.7112	5.39776	5.39776	5.39776	48.7112	5.39776	51.0345	5.39776	48.7112	5.39776	5.39776
Petroleum Property (MON (Clear)[Petrol])		44.2779	44.2779	44.2779	47.7281	<empty>	47.7281	7.32006	7.32006	7.32006	47.7281	7.32006	49.9008	7.32006	47.7281	7.32006	7.32006
Petroleum Property (Cetane Idx D4737[Petrol])		34.228	34.228	34.228	45.0674	102.241	45.0674	<empty>	<empty>	<empty>	45.0674	<empty>	46.0765	<empty>	45.0674	<empty>	<empty>
Petroleum Property (Kinematic Viscosity @ X C[Petrol])	*cSt*	0.89219	0.89219	0.89221	0.68564	0.61935	0.68564	105599	105599	105599	0.68562	105599	0.65825	105599	0.68564	105599	105599
Petroleum Property (Reid Vapour Pressure[Petrol])	*psig*	-11.4737	-11.4737	-11.4737	-11.4142	5535.93	-11.4142	-14.2485	-14.2485	-14.2485	-11.4142	-14.2485	11.0385	-14.2485	-11.4142	-14.2485	-14.2485
Petroleum Property (Flash Point[Petrol])	*F*	25.1319	25.1319	25.1319	22.4846	<empty>	22.4846	279.965	279.965	279.965	22.4846	279.965	10.7095	279.965	22.4846	279.965	279.965
Petroleum Property (Cloud Point[Petrol])	*F*	-41.5095	-41.5095	-41.5095	-48.4625	<empty>	-48.4625	-7.27791	-7.27791	-7.27791	-48.4625	-7.27791	-50.8039	-7.27791	-48.4625	-7.27791	-7.27791
Petroleum Property (Pour Point[Petrol])	*F*	58.1135	58.1135	58.1135	60.3553	62.8822	60.3553	11.4229	11.4229	11.4229	60.3553	11.4229	63.1346	11.4229	60.3553	11.4229	11.4229
Petroleum Property (Aniline Point[Petrol])	*F*	15.7181	15.7181	15.7181	0.06125	-74.3037	0.06125	183.431	183.431	183.431	0.06125	183.431	-4.76597	183.431	0.06125	183.431	183.431
Petroleum Property (Paraffins by Volume[Petrol])	*%*	63.2458	63.2458	63.2458	68.2332	64.9653	68.2332	9.82249	9.82249	9.82249	68.2332	9.82249	70.4883	9.82249	68.2332	9.82249	9.82249
Petroleum Property (Olefins by Volume[Petrol])	*%*	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Naphthenes by Volume[Petrol])	*%*	22.0906	22.0906	22.0906	19.9028	14.2041	19.9028	45.5263	45.5263	45.5263	19.9028	45.5263	18.7602	45.5263	19.9028	45.5263	45.5263
Petroleum Property (Aromatics by Volume[Petrol])	*%*	14.5645	14.5645	14.5645	11.8598	7.15362	11.8598	43.537	43.537	43.537	11.8598	43.537	10.6868	43.537	11.8598	43.537	43.537

Aspen HYSYS Heat & Material Balance Stream Properties	*Unit*	**58**	**6**	**14**	**10**	**Solvent**	**19**
Vapour Fraction		0	0	0	0	0	0
Temperature	*F*	160	120.437	356.283	100.395	120	98.9297
Pressure	*psig*	33	56	58	58	0	0
Molar Flow	*MMSCFD*	0.1334	3.46095	0.1334	3.59435	3.56787	3.62747
Mass Flow	*lb/hr*	5181.25	40875.7	5181.25	46057	41911.2	44870.6
Std Ideal Liq Vol Flow	*barrel/day*	361.742	3874.89	361.742	4236.63	3981.04	4029.93
Heat Flow	*Btu/hr*	-4576522	-3.7E+07	-4059956	-4.2E+07	-3.8E+07	-4.1E+07
Molar Enthalpy	*Btu/lbmole*	-312430	-98140.9	-277165	-107465	-97666.5	-103119
Petroleum Property (API[Petrol])		12.636	64.2051	12.636	58.4037	64.5985	53.9146
Petroleum Property (SG (60/60)[Petrol])		0.98171	0.72303	0.98171	0.74511	0.72158	0.76315
Petroleum Property (Std. Liquid Density[Petrol])	*lb/ft3*	61.225	45.0919	61.225	46.4695	45.0015	47.5945
Petroleum Property (TBP 0%[Petrol])	*F*	<empty>	132.935	<empty>	132.065	132.676	<empty>
Petroleum Property (TBP 5%[Petrol])	*F*	244.224	159.617	244.224	161.109	158.924	149.559
Petroleum Property (TBP 10%[Petrol])	*F*	299.07	178.576	299.07	181.088	177.595	172.404
Petroleum Property (TBP 30%[Petrol])	*F*	867.455	214.238	867.455	219.425	213.283	215.122
Petroleum Property (TBP 50%[Petrol])	*F*	1018.51	240.465	1018.51	245.24	239.779	243.737
Petroleum Property (TBP 70%[Petrol])	*F*	1164.45	265.959	1164.45	275.081	265.016	274.345
Petroleum Property (TBP 90%[Petrol])	*F*	1372.13	306.264	1372.13	328.899	303.957	331.312
Petroleum Property (TBP 95%[Petrol])	*F*	1470.96	322.089	1470.96	957.19	319.983	981.519
Petroleum Property (TBP 100%[Petrol])	*F*	1754.54	852.296	1754.54	1726.59	362.096	1727.16
Petroleum Property (D86 IBP[Petrol])	*F*	<empty>	188.215	<empty>	188.864	187.879	<empty>
Petroleum Property (D86 5%[Petrol])	*F*	<empty>	203.935	<empty>	206.73	203.182	<empty>
Petroleum Property (D86 10%[Petrol])	*F*	<empty>	208.7	<empty>	211.929	207.828	<empty>
Petroleum Property (D86 30%[Petrol])	*F*	<empty>	224.663	<empty>	229.588	223.808	<empty>
Petroleum Property (D86 50%[Petrol])	*F*	<empty>	239.469	<empty>	244.104	238.803	<empty>
Petroleum Property (D86 70%[Petrol])	*F*	<empty>	256.215	<empty>	264.394	255.344	<empty>
Petroleum Property (D86 90%[Petrol])	*F*	<empty>	286.865	<empty>	309.348	284.627	<empty>
Petroleum Property (D86 95%[Petrol])	*F*	<empty>	305.972	<empty>	484.728	303.88	<empty>
Petroleum Property (D86 FBP[Petrol])	*F*	<empty>	448.034	<empty>	593.199	326.458	<empty>
Petroleum Property (Sulfur Wt Pct[Petrol])	*%*	0.40217	0.14014	0.40217	0.16962	0.1404	0.1645
Petroleum Property (Nitrogen Content[Petrol])	*ppmwt*	9982.64	10.7446	9982.64	1132.55	10.2806	1173.41
Petroleum Property (Basic Nitrogen Content[Petrol])	*ppmwt*	2636.02	91.0307	2636.02	377.333	82.8083	384.624
Petroleum Property (Conradson Carbon Content[Petrol])	*%*	11.2014	0.46299	11.2014	1.67103	0.46848	1.69629
Petroleum Property (RON (Clear)[Petrol])		5.39776	48.7112	5.39776	45.0129	49.1404	43.6898
Petroleum Property (MON (Clear)[Petrol])		7.32006	47.7281	7.32006	44.2779	48.1067	42.9915
Petroleum Property (Cetane Idx D4737[Petrol])		<empty>	45.0674	<empty>	34.228	45.78	<empty>
Petroleum Property (Kinematic Viscosity @ X C[Petrol])	*cSt*	105599	0.68562	105599	0.89218	0.68061	0.87637
Petroleum Property (Reid Vapour Pressure[Petrol])	*psig*	-14.2485	-11.4142	-14.2485	-11.4737	-13.0636	-13.0726
Petroleum Property (Flash Point[Petrol])	*F*	279.965	22.4846	279.965	25.1319	21.7681	<empty>
Petroleum Property (Cloud Point[Petrol])	*F*	-7.27791	-48.4625	-7.27791	-41.5095	-48.3093	-41.712
Petroleum Property (Pour Point[Petrol])	*F*	11.4229	60.3553	11.4229	58.1135	60.679	58.0023
Petroleum Property (Aniline Point[Petrol])	*F*	183.431	0.06125	183.431	15.7181	-0.51871	5.80008
Petroleum Property (Paraffins by Volume[Petrol])	*%*	9.82249	68.2332	9.82249	63.2458	68.7443	61.3969
Petroleum Property (Olefins by Volume[Petrol])	*%*	<empty>	<empty>	<empty>	<empty>	<empty>	<empty>
Petroleum Property (Naphthenes by Volume[Petrol])	*%*	45.5263	19.9028	45.5263	22.0906	19.5854	21.7345
Petroleum Property (Aromatics by Volume[Petrol])	*%*	43.537	11.8598	43.537	14.5645	11.6702	14.4215

Aspen HYSYS Heat & Material Balance Stream Compositions	*Unit*	Bitumen	Makeup Solvent	Solvent To Mixer	3	4	8	9	1	26	27	28	29	31	30	32	55	56	Nitrogen Vent	2	Inlet Ore Feed	Sand	Mixer Product	7	5	78	Sand Product	Recovered HC	96
Comp Mole Frac (Nitrogen)		0	0	0	0	0	0.504033307	0.00017554	0.00017554	0.000182293	0.503129857	0.000182293	0.000182293	0.000182293	0.000182293	0.000182293	0.000182293	0.000182293	0.930788953	0	0	0	0	0	0	0	6.71E-07	0.002090109	0
Comp Mole Frac (90-100F_3*)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Comp Mole Frac (100-110F_3*)		0	8.89E-06	8.89E-06	8.89E-06	8.89E-06	3.23E-05	8.16E-06	8.16E-06	8.46E-06	3.22E-05	8.46E-06	8.46E-06	8.46E-06	8.46E-06	8.46E-06	8.46E-06	8.46E-06	2.90E-06	8.89E-06	0	0	1.63E-06	6.80E-05	1.63E-06	2.01E-07	5.45E-10	3.61E-06	2.01E-07
Comp Mole Frac (110-120F_3*)		0	0.001119831	0.001119831	0.001119831	0.001119831	0.003664427	0.001031395	0.001031395	0.001068565	0.003656894	0.001068565	0.001068565	0.001068565	0.001068565	0.001068565	0.001068565	0.001068565	0.00035094	0.001119831	0	0	0.000205764	0.007696455	0.000205764	2.53E-05	7.43E-08	0.000487889	2.53E-05
Comp Mole Frac (120-130F_3*)		0	0.006202599	0.006202599	0.006202599	0.006202599	0.015514389	0.005755448	0.005755448	0.005960063	0.015498112	0.005960063	0.005960063	0.005960063	0.005960063	0.005960063	0.005960063	0.005960063	0.001727277	0.006202599	0	0	0.001139698	0.032329363	0.001139698	0.000140152	5.09E-07	0.00321061	0.000140152
Comp Mole Frac (130-140F_3*)		0	0.016226672	0.016226672	0.016226672	0.016226672	0.038137036	0.015083759	0.015083759	0.015618219	0.038105285	0.015618219	0.015618219	0.015618219	0.015618219	0.015618219	0.015618219	0.015618219	0.004382315	0.016226672	0	0	0.002981573	0.079318302	0.002981573	0.000366654	1.40E-06	0.008719363	0.000366654
Comp Mole Frac (140-150F_3*)		0	0.024192743	0.024192743	0.024192743	0.024192743	0.040208541	0.022713785	0.022713785	0.023506887	0.040209615	0.023506887	0.023506887	0.023506887	0.023506887	0.023506887	0.023506887	0.023506887	0.005392402	0.024192743	0	0	0.0044453	0.082686282	0.0044453	0.000546653	2.59E-06	0.015679413	0.000546653
Comp Mole Frac (150-160F_3*)		0	0.028475831	0.028475831	0.028475831	0.028475831	0.043673094	0.026798013	0.026798013	0.027728878	0.043685402	0.027728878	0.027728878	0.027728878	0.027728878	0.027728878	0.027728878	0.027728878	0.006026661	0.028475831	0	0	0.005232297	0.089585992	0.005232297	0.000643432	3.23E-06	0.019205108	0.000643432
Comp Mole Frac (160-170F_3*)		0	0.029526569	0.029526569	0.029526569	0.029526569	0.034823457	0.027996475	0.027996475	0.028950695	0.034861054	0.028950695	0.028950695	0.028950695	0.028950695	0.028950695	0.028950695	0.028950695	0.005180288	0.029526569	0	0	0.005425365	0.070860395	0.005425365	0.000667175	4.08E-06	0.022409837	0.000667175
Comp Mole Frac (170-180F_3*)		0	0.035228077	0.035228077	0.035228077	0.035228077	0.03521516	0.033553649	0.033553649	0.034679997	0.035270775	0.034679997	0.034679997	0.034679997	0.034679997	0.034679997	0.034679997	0.034679997	0.005406764	0.035228077	0	0	0.00647299	0.07131503	0.00647299	0.000796004	5.55E-06	0.028536492	0.000796004
Comp Mole Frac (180-190F_3*)		0	0.044889107	0.044889107	0.044889107	0.044889107	0.037654493	0.042947362	0.042947362	0.044363382	0.037732185	0.044363382	0.044363382	0.044363382	0.044363382	0.044363382	0.044363382	0.044363382	0.005903258	0.044889107	0	0	0.008248158	0.075884399	0.008248158	0.001014302	8.11E-06	0.038647106	0.001014302
Comp Mole Frac (190-200F_3*)		0	0.059627124	0.059627124	0.059627124	0.059627124	0.040344044	0.057331083	0.057331083	0.059177472	0.04044748	0.059177472	0.059177472	0.059177472	0.059177472	0.059177472	0.059177472	0.059177472	0.006378514	0.059627124	0	0	0.010956198	0.080857035	0.010956198	0.001347319	1.26E-05	0.054707951	0.001347319
Comp Mole Frac (200-210F_3*)		0	0.078358136	0.078358136	0.078358136	0.078358136	0.046224308	0.0755541	0.0755541	0.077946791	0.046355689	0.077946791	0.077946791	0.077946791	0.077946791	0.077946791	0.077946791	0.077946791	0.007272771	0.078358136	0	0	0.014397931	0.092345337	0.014397931	0.00177056	1.84E-05	0.074433078	0.00177056
Comp Mole Frac (210-220F_3*)		0	0.086136635	0.086136635	0.086136635	0.086136635	0.038315645	0.08346632	0.08346632	0.086010691	0.038442012	0.086010691	0.086010691	0.086010691	0.086010691	0.086010691	0.086010691	0.086010691	0.005827652	0.086136635	0	0	0.015827193	0.076109955	0.015827193	0.001946321	2.47E-05	0.086728379	0.001946321
Comp Mole Frac (220-230F_3*)		0	0.086365665	0.086365665	0.086365665	0.086365665	0.035389824	0.083790438	0.083790438	0.086312829	0.035510241	0.086312829	0.086312829	0.086312829	0.086312829	0.086312829	0.086312829	0.086312829	0.00529775	0.086365665	0	0	0.015869277	0.070196786	0.015869277	0.001951496	2.63E-05	0.088175714	0.001951496
Comp Mole Frac (230-240F_3*)		0	0.088255612	0.088255612	0.088255612	0.088255612	0.024850063	0.086000463	0.086000463	0.088423358	0.024942029	0.088423358	0.088423358	0.088423358	0.088423358	0.088423358	0.088423358	0.088423358	0.003349274	0.088255612	0	0	0.016216545	0.049027392	0.016216545	0.001994201	3.49E-05	0.094587339	0.001994201
Comp Mole Frac (240-250F_3*)		0	0.083894091	0.083894091	0.083894091	0.083894091	0.021728817	0.081810147	0.081810147	0.084076644	0.021809809	0.084076644	0.084076644	0.084076644	0.084076644	0.084076644	0.084076644	0.084076644	0.002841674	0.083894091	0	0	0.015415137	0.042829712	0.015415137	0.001895649	3.51E-05	0.090624441	0.001895649
Comp Mole Frac (250-260F_3*)		0	0.066121419	0.066121419	0.066121419	0.066121419	0.012619355	0.064608891	0.064608891	0.066276482	0.012665775	0.066276482	0.066276482	0.066276482	0.066276482	0.066276482	0.066276482	0.066276482	0.001449602	0.066121419	0	0	0.012149493	0.024806601	0.012149493	0.001494062	3.40E-05	0.072973117	0.001494062
Comp Mole Frac (260-270F_3*)		0	0.060998042	0.060998042	0.060998042	0.060998042	0.009974489	0.05964297	0.05964297	0.061119602	0.010010081	0.061119602	0.061119602	0.061119602	0.061119602	0.061119602	0.061119602	0.061119602	0.001061618	0.060998042	0	0	0.011208098	0.01958784	0.011208098	0.001378296	3.48E-05	0.067798188	0.001378296
Comp Mole Frac (270-280F_3*)		0	0.051995794	0.051995794	0.051995794	0.051995794	0.006638513	0.05087536	0.05087536	0.052040188	0.006660052	0.052040188	0.052040188	0.052040188	0.052040188	0.052040188	0.052040188	0.052040188	0.000616846	0.051995794	0	0	0.009553978	0.013021156	0.009553978	0.001174883	3.49E-05	0.058204964	0.001174883
Comp Mole Frac (280-290F_3*)		0	0.042334858	0.042334858	0.042334858	0.042334858	0.004297032	0.041433496	0.041433496	0.042301568	0.004308886	0.042301568	0.042301568	0.042301568	0.042301568	0.042301568	0.042301568	0.042301568	0.000347322	0.042334858	0	0	0.007778827	0.008422329	0.007778827	0.000956587	3.31E-05	0.047520045	0.000956587
Comp Mole Frac (290-300F_3*)		0	0.031418101	0.031418101	0.031418101	0.031418101	0.002656673	0.030749132	0.030749132	0.031340699	0.002662592	0.031340699	0.031340699	0.031340699	0.031340699	0.031340699	0.031340699	0.031340699	0.000190602	0.031418101	0	0	0.005772925	0.005205303	0.005772925	0.000709915	2.77E-05	0.035265754	0.000709915
Comp Mole Frac (300-310F_3*)		0	0.021609437	0.021609437	0.021609437	0.021609437	0.001316503	0.021140759	0.021140759	0.021471801	0.001317604	0.021471801	0.021471801	0.021471801	0.021471801	0.021471801	0.021471801	0.021471801	7.50E-05	0.021609437	0	0	0.00397063	0.002578787	0.00397063	0.000488281	2.36E-05	0.024153931	0.000488281
Comp Mole Frac (310-320F_3*)		0	0.032550479	0.032550479	0.032550479	0.032550479	0.001812464	0.031838488	0.031838488	0.03230235	0.001813109	0.03230235	0.03230235	0.03230235	0.03230235	0.03230235	0.03230235	0.03230235	9.66E-05	0.032550479	0	0	0.005980994	0.003550319	0.005980994	0.000735502	3.78E-05	0.036311634	0.000735502
Comp Mole Frac (320-330F_3*)		0	0.021118748	0.021118748	0.021118748	0.021118748	0.000764408	0.020630047	0.020630047	0.020810432	0.000762482	0.020810432	0.020810432	0.020810432	0.020810432	0.020810432	0.020810432	0.020810432	2.92E-05	0.021118748	0	0	0.003880469	0.001498124	0.003880469	0.000477194	3.23E-05	0.023240342	0.000477194
Comp Mole Frac (330-340F_3*)		0	0.003123509	0.003123509	0.003123509	0.003123509	0.00010398	0.003050232	0.003050232	0.003072988	0.000103645	0.003072988	0.003072988	0.003072988	0.003072988	0.003072988	0.003072988	0.003072988	3.71E-06	0.003123509	0	0	0.00057393	0.000203822	0.00057393	7.06E-05	5.03E-06	0.003425424	7.06E-05
Comp Mole Frac (340-350F_3*)		0	0.000190142	0.000190142	0.000190142	0.000190142	4.43E-06	0.000185373	0.000185373	0.000185629	4.40E-06	0.000185629	0.000185629	0.000185629	0.000185629	0.000185629	0.000185629	0.000185629	1.17E-07	0.000190142	0	0	3.49E-05	8.70E-06	3.49E-05	4.30E-06	3.83E-07	0.000204855	4.30E-06
Comp Mole Frac (350-360F_3*)		6.78E-07	3.19E-05	3.19E-05	3.19E-05	3.19E-05	6.36E-07	3.11E-05	3.11E-05	3.10E-05	6.30E-07	3.10E-05	3.10E-05	3.10E-05	3.10E-05	3.10E-05	3.10E-05	3.10E-05	1.47E-08	3.19E-05	4.84E-09	0	5.86E-06	1.25E-06	5.86E-06	7.21E-07	7.09E-08	3.41E-05	7.21E-07
Comp Mole Frac (360-370F_3*)		1.70E-06	0	0	0	0	7.19E-10	5.22E-08	5.22E-08	5.18E-08	7.11E-10	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	1.20E-11	0	1.21E-08	0	9.87E-09	1.41E-09	9.87E-09	1.21E-09	1.44E-10	5.61E-08	1.21E-09
Comp Mole Frac (370-380F_3*)		3.67E-06	0	0	0	0	1.11E-09	1.13E-07	1.13E-07	1.11E-07	1.09E-09	1.11E-07	1.11E-07	1.11E-07	1.11E-07	1.11E-07	1.11E-07	1.11E-07	1.35E-11	0	2.62E-08	0	2.14E-08	2.19E-09	2.14E-08	2.63E-09	3.89E-10	1.17E-07	2.63E-09
Comp Mole Frac (380-390F_3*)		4.99E-06	0	0	0	0	1.32E-09	1.53E-07	1.53E-07	1.50E-07	1.30E-09	1.50E-07	1.50E-07	1.50E-07	1.50E-07	1.50E-07	1.50E-07	1.50E-07	1.42E-11	0	3.56E-08	0	2.90E-08	2.61E-09	2.90E-08	3.57E-09	5.72E-10	1.57E-07	3.57E-09
Comp Mole Frac (390-400F_3*)		1.66E-05	0	0	0	0	3.11E-09	5.07E-07	5.07E-07	4.89E-07	3.00E-09	4.89E-07	4.89E-07	4.89E-07	4.89E-07	4.89E-07	4.89E-07	4.89E-07	2.36E-11	0	1.18E-07	0	9.66E-08	6.15E-09	9.66E-08	1.19E-08	2.37E-09	5.00E-07	1.19E-08
Comp Mole Frac (400-410F_3*)		1.95E-05	0	0	0	0	3.18E-09	5.94E-07	5.94E-07	5.71E-07	3.07E-09	5.71E-07	5.71E-07	5.71E-07	5.71E-07	5.71E-07	5.71E-07	5.71E-07	2.12E-11	0	1.39E-07	0	1.13E-07	6.31E-09	1.13E-07	1.40E-08	3.00E-09	5.76E-07	1.40E-08
Comp Mole Frac (410-420F_3*)		7.64E-05	0	0	0	0	8.90E-09	2.32E-06	2.32E-06	2.19E-06	8.45E-09	2.19E-06	2.19E-06	2.19E-06	2.19E-06	2.19E-06	2.19E-06	2.19E-06	4.17E-11	0	5.45E-07	0	4.45E-07	1.77E-08	4.45E-07	5.47E-08	1.44E-08	2.13E-06	5.47E-08
Comp Mole Frac (420-430F_3*)		0.000462444	0	0	0	0	3.59E-08	1.39E-05	1.39E-05	1.28E-05	3.34E-08	1.28E-05	1.28E-05	1.28E-05	1.28E-05	1.28E-05	1.28E-05	1.28E-05	1.10E-10	0	3.30E-06	0	2.69E-06	7.18E-08	2.69E-06	3.31E-07	1.07E-07	1.18E-05	3.31E-07
Comp Mole Frac (430-440F_3*)		0.002006439	0	0	0	0	1.55E-07	6.05E-05	6.05E-05	5.57E-05	1.44E-07	5.57E-05	5.57E-05	5.57E-05	5.57E-05	5.57E-05	5.57E-05	5.57E-05	4.71E-10	0	1.43E-05	0	1.17E-05	3.10E-07	1.17E-05	1.44E-06	4.68E-07	5.11E-05	1.44E-06
Comp Mole Frac (440-450F_3*)		0.003234555	0	0	0	0	1.75E-07	9.69E-05	9.69E-05	8.69E-05	1.59E-07	8.69E-05	8.69E-05	8.69E-05	8.69E-05	8.69E-05	8.69E-05	8.69E-05	3.59E-10	0	2.31E-05	0	1.88E-05	3.51E-07	1.88E-05	2.31E-06	8.92E-07	7.54E-05	2.31E-06
Comp Mole Frac (450-460F_3*)		0.005076738	0	0	0	0	2.29E-07	0.000151584	0.000151584	0.000133968	2.05E-07	0.000133968	0.000133968	0.000133968	0.000133968	0.000133968	0.000133968	0.000133968	3.83E-10	0	3.62E-05	0	2.95E-05	4.60E-07	2.95E-05	3.63E-06	1.52E-06	0.00011236	3.63E-06
Comp Mole Frac (460-470F_3*)		0.008453313	0	0	0	0	2.61E-07	0.000250618	0.000250618	0.000213753	2.26E-07	0.000213753	0.000213753	0.000213753	0.000213753	0.000213753	0.000213753	0.000213753	2.82E-10	0	6.02E-05	0	4.92E-05	5.28E-07	4.92E-05	6.05E-06	2.94E-06	0.000165838	6.05E-06
Comp Mole Frac (470-480F_3*)		0.010704297	0	0	0	0	2.76E-07	0.000316288	0.000316288	0.000264823	2.35E-07	0.000264823	0.000264823	0.000264823	0.000264823	0.000264823	0.000264823	0.000264823	2.41E-10	0	7.63E-05	0	6.23E-05	5.60E-07	6.23E-05	7.66E-06	3.97E-06	0.000197315	7.66E-06
Comp Mole Frac (480-490F_3*)		0.015897162	0	0	0	0	2.80E-07	0.000466289	0.000466289	0.000372475	2.28E-07	0.000372475	0.000372475	0.000372475	0.000372475	0.000372475	0.000372475	0.000372475	1.53E-10	0	0.000113291	0	9.25E-05	5.70E-07	9.25E-05	1.14E-05	6.70E-06	0.000252112	1.14E-05
Comp Mole Frac (490-500F_3*)		0.017195511	0	0	0	0	2.82E-07	0.000503718	0.000503718	0.000398674	2.28E-07	0.000398674	0.000398674	0.000398674	0.000398674	0.000398674	0.000398674	0.000398674	1.41E-10	0	0.000122544	0	0.000100027	5.76E-07	0.000100027	1.23E-05	7.40E-06	0.000264923	1.23E-05
Comp Mole Frac (500-510F_3*)		0.022498514	0	0	0	0	2.50E-07	0.000654292	0.000654292	0.000487465	1.91E-07	0.000487465	0.000487465	0.000487465	0.000487465	0.000487465	0.000487465	0.000487465	7.55E-11	0	0.000160336	0	0.000130875	5.12E-07	0.000130875	1.61E-05	1.08E-05	0.000289834	1.61E-05
Comp Mole Frac (510-520F_3*)		0.022987772	0	0	0	0	2.02E-07	0.000665898	0.000665898	0.000477562	1.49E-07	0.000477562	0.000477562	0.000477562	0.000477562	0.000477562	0.000477562	0.000477562	4.47E-11	0	0.000163822	0	0.000133721	4.14E-07	0.000133721	1.64E-05	1.16E-05	0.000264914	1.64E-05
Comp Mole Frac (520-530F_3*)		0.024944803	0	0	0	0	1.56E-07	0.000718644	0.000718644	0.000482454	1.08E-07	0.000482454	0.000482454	0.000482454	0.000482454	0.000482454	0.000482454	0.000482454	2.17E-11	0	0.000177769	0	0.000145105	3.21E-07	0.000145105	1.78E-05	1.35E-05	0.000240502	1.78E-05
Comp Mole Frac (530-540F_3*)		0.023394514	0	0	0	0	1.14E-07	0.00067157	0.00067157	0.000428008	7.45E-08	0.000428008	0.000428008	0.000428008	0.000428008	0.000428008	0.000428008	0.000428008	1.11E-11	0	0.000166721	0	0.000136087	2.34E-07	0.000136087	1.67E-05	1.33E-05	0.000196845	1.67E-05
Comp Mole Frac (540-550F_3*)		0.021069268	0	0	0	0	7.29E-08	0.000602217	0.000602217	0.000354964	4.44E-08	0.000354964	0.000354964	0.000354964	0.000354964	0.000354964	0.000354964	0.000354964	4.42E-12	0	0.00015015	0	0.000122561	1.51E-07	0.000122561	1.51E-05	1.26E-05	0.000146278	1.51E-05
Comp Mole Frac (550-560F_3*)		0.013999564	0	0	0	0	3.91E-08	0.000399176	0.000399176	0.000222966	2.26E-08	0.000222966	0.000222966	0.000222966	0.000222966	0.000222966	0.000222966	0.000222966	1.74E-12	0	9.98E-05	0	8.14E-05	8.08E-08	8.14E-05	1.00E-05	8.57E-06	8.57E-05	1.00E-05
Comp Mole Frac (560-570F_3*)		0.009286624	0	0	0	0	1.75E-08	0.000263783	0.000263783	0.000132436	9.11E-09	0.000132436	0.000132436	0.000132436	0.000132436	0.000132436	0.000132436	0.000132436	4.38E-13	0	6.62E-05	0	5.40E-05	3.62E-08	5.40E-05	6.64E-06	5.92E-06	4.48E-05	6.64E-06
Comp Mole Frac (570-580F_3*)		0.009608558	0	0	0	0	1.23E-08	0.000272091	0.000272091	0.0001216	5.74E-09	0.0001216	0.0001216	0.0001216	0.0001216	0.0001216	0.0001216	0.0001216	1.74E-13	0	6.85E-05	0	5.59E-05	2.55E-08	5.59E-05	6.87E-06	6.32E-06	3.64E-05	6.87E-06
Comp Mole Frac (580-590F_3*)		0.009689107	0	0	0	0	1.12E-08	0.000274166	0.000274166	0.000118356	5.02E-09	0.000118356	0.000118356	0.000118356	0.000118356	0.000118356	0.000118356	0.000118356	1.34E-13	0	6.90E-05	0	5.64E-05	2.31E-08	5.64E-05	6.93E-06	6.42E-06	3.42E-05	6.93E-06
Comp Mole Frac (590-600F_3*)		0.026475834	0	0	0	0	1.93E-08	0.000747149	0.000747149	0.000276547	7.45E-09	0.000276547	0.000276547	0.000276547	0.000276547	0.000276547	0.000276547	0.000276547	1.16E-13	0	0.00018868	0	0.000154011	3.99E-08	0.000154011	1.89E-05	1.80E-05	6.95E-05	1.89E-05
Comp Mole Frac (600-610F_3*)		0.022314638	0	0	0	0	1.37E-08	0.000629202	0.000629202	0.000219361	4.99E-09	0.000219361	0.000219361	0.000219361	0.000219361	0.000219361	0.000219361	0.000219361	6.34E-14	0	0.000159025	0	0.000129805	2.84E-08	0.000129805	1.60E-05	1.53E-05	5.24E-05	1.60E-05
Comp Mole Frac (610-620F_3*)		0.005669844	0	0	0	0	2.09E-09	0.000159549	0.000159549	4.59E-05	6.31E-10	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.59E-05	4.42E-15	0	4.04E-05	0	3.30E-05	4.33E-09	3.30E-05	4.06E-06	3.96E-06	9.47E-06	4.06E-06
Comp Mole Frac (620-630F_3*)		0.004398675	0	0	0	0	1.31E-09	0.000123696	0.000123696	3.27E-05	3.64E-10	3.27E-05	3.27E-05	3.27E-05	3.27E-05	3.27E-05	3.27E-05	3.27E-05	1.99E-15	0	3.13E-05	0	2.56E-05	2.71E-09	2.56E-05	3.15E-06	3.09E-06	6.36E-06	3.15E-06
Comp Mole Frac (630-650F_3*)		0.004435573	0	0	0	0	7.14E-10	0.000124548	0.000124548	2.53E-05	1.54E-10	2.53E-05	2.53E-05	2.53E-05	2.53E-05	2.53E-05	2.53E-05	2.53E-05	4.19E-16	0	3.16E-05	0	2.58E-05	1.48E-09	2.58E-05	3.17E-06	3.16E-06	4.21E-06	3.17E-06
Comp Mole Frac (650-670F_3*)		0.003495295	0	0	0	0	2.58E-10	9.80E-05	9.80E-05	1.39E-05	3.90E-11	1.39E-05	1.39E-05	1.39E-05	1.39E-05	1.39E-05	1.39E-05	1.39E-05	4.45E-17	0	2.49E-05	0	2.03E-05	5.32E-10	2.03E-05	2.50E-06	2.52E-06	1.93E-06	2.50E-06
Comp Mole Frac (670-690F_3*)		0.0029316	0	0	0	0	1.21E-10	8.22E-05	8.22E-05	8.84E-06	1.40E-11	8.84E-06	8.84E-06	8.84E-06	8.84E-06	8.84E-06	8.84E-06	8.84E-06	8.43E-18	0	2.09E-05	0	1.71E-05	2.49E-10	1.71E-05	2.10E-06	2.12E-06	1.08E-06	2.10E-06
Comp Mole Frac (690-710F_3*)		0.00190718	0	0	0	0	3.20E-11	5.34E-05	5.34E-05	3.68E-06	2.38E-12	3.68E-06	3.68E-06	3.68E-06	3.68E-06	3.68E-06	3.68E-06	3.68E-06	5.41E-19	0	1.36E-05	0	1.11E-05	6.57E-11	1.11E-05	1.36E-06	1.39E-06	3.74E-07	1.36E-06
Comp Mole Frac (710-730F_3*)		0.002770642	0	0	0	0	2.01E-11	7.76E-05	7.76E-05	3.47E-06	9.79E-13	3.47E-06	3.47E-06	3.47E-06	3.47E-06	3.47E-06	3.47E-06	3.47E-06	9.06E-20	0	1.97E-05	0	1.61E-05	4.11E-11	1.61E-05	1.98E-06	2.02E-06	3.01E-07	1.98E-06
Comp Mole Frac (730-750F_3*)		0.00618966	0	0	0	0	1.99E-11	0.00017334	0.00017334	5.06E-06	6.38E-13	5.06E-06	5.06E-06	5.06E-06	5.06E-06	5.06E-06	5.06E-06	5.06E-06	2.49E-20	0	4.41E-05	0	3.60E-05	4.06E-11	3.60E-05	4.43E-06	4.52E-06	3.79E-07	4.43E-06
Comp Mole Frac (750-770F_3*)		0.0161236	0	0	0	0	2.32E-11	0.000451502	0.000451502	8.62E-06	4.92E-13	8.62E-06	8.62E-06	8.62E-06	8.62E-06	8.62E-06	8.62E-06	8.62E-06	8.22E-21	0	0.000114905	0	9.38E-05	4.74E-11	9.38E-05	1.15E-05	1.18E-05	5.61E-07	1.15E-05
Comp Mole Frac (770-790F_3*)		0.021310256	0	0	0	0	1.25E-11	0.000596713	0.000596713	7.05E-06	1.65E-13	7.05E-06	7.05E-06	7.05E-06	7.05E-06	7.05E-06	7.05E-06	7.05E-06	1.06E-21	0	0.000151868	0	0.000123963	2.53E-11	0.000123963	1.52E-05	1.56E-05	3.92E-07	1.52E-05
Comp Mole Frac (790-810F_3*)		0.024307524	0	0	0	0	5.82E-12	0.000680622	0.000680622	4.98E-06	4.80E-14	4.98E-06	4.98E-06	4.98E-06	4.98E-06	4.98E-06	4.98E-06	4.98E-06	1.21E-22	0	0.000173228	0	0.000141398	1.18E-11	0.000141398	1.74E-05	1.78E-05	2.38E-07	1.74E-05
Comp Mole Frac (810-830F_3*)		0.026780529	0	0	0	0	2.55E-12	0.000749857	0.000749857	3.35E-06	1.30E-14	3.35E-06	3.35E-06	3.35E-06	3.35E-06	3.35E-06	3.35E-06	3.35E-06	1.24E-23	0	0.000190851	0	0.000155783	5.15E-12	0.000155783	1.92E-05	1.96E-05	1.37E-07	1.92E-05
Comp Mole Frac (830-850F_3*)		0.027816921	0	0	0	0	1.05E-12	0.00077887	0.00077887	2.11E-06	3.27E-15	2.11E-06	2.11E-06	2.11E-06	2.11E-06	2.11E-06	2.11E-06	2.11E-06	1.19E-24	0	0.000198237	0	0.000161812	2.11E-12	0.000161812	1.99E-05	2.03E-05	7.41E-08	1.99E-05
Comp Mole Frac (850-870F_3*)		0.026920135	0	0	0	0	3.09E-13	0.000753757	0.000753757	1.08E-06	5.14E-16	1.08E-06	1.08E-06	1.08E-06	1.08E-06	1.08E-06	1.08E-06	1.08E-06	5.34E-26	0	0.000191846	0	0.000156596	6.20E-13	0.000156596	1.93E-05	1.97E-05	3.10E-08	1.93E-05
Comp Mole Frac (870-890F_3*)		0.026477555	0	0	0	0	1.39E-13	0.000741364	0.000741364	6.96E-07	1.53E-16	6.96E-07	6.96E-07	6.96E-07	6.96E-07	6.96E-07	6.96E-07	6.96E-07	5.43E-27	0	0.000188692	0	0.000154021	2.78E-13	0.000154021	1.89E-05	1.94E-05	1.75E-08	1.89E-05
Comp Mole Frac (890-910F_3*)		0.027161034	0	0	0	0	4.31E-14	0.0007605	0.0007605	3.72E-07	2.51E-17	3.72E-07	3.72E-07	3.72E-07	3.72E-07	3.72E-07	3.72E-07	3.72E-07	2.58E-28	0	0.000193563	0	0.000157997	8.61E-14	0.000157997	1.94E-05	1.99E-05	7.69E-09	1.94E-05
Comp Mole Frac (910-930F_3*)		0.027453741	0	0	0	0	1.85E-14	0.000768695	0.000768695	2.36E-07	6.84E-18	2.36E-07	2.36E-07	2.36E-07	2.36E-07	2.36E-07	2.36E-07	2.36E-07	2.92E-29	0	0.000195649	0	0.0001597	3.69E-14	0.0001597	1.96E-05	2.01E-05	4.24E-09	1.96E-05
Comp Mole Frac (930-950F_3*)		0.028041155	0	0	0	0	4.77E-15	0.000785143	0.000785143	1.12E-07	8.33E-19	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.12E-07	1.12E-07	8.13E-31	0	0.000199835	0	0.000163117	9.46E-15	0.000163117	2.01E-05	2.05E-05	1.61E-09	2.01E-05
Comp Mole Frac (950-970F_3*)		0.028022046	0	0	0	0	3.28E-15	0.000784607	0.000784607	9.13E-08	4.67E-19	9.13E-08	9.13E-08	9.13E-08	9.13E-08	9.13E-08	9.13E-08	9.13E-08	3.03E-31	0	0.000199699	0	0.000163005	6.49E-15	0.000163005	2.00E-05	2.05E-05	1.23E-09	2.00E-05
Comp Mole Frac (970-990F_3*)		0.027264178	0	0	0	0	7.71E-16	0.000763387	0.000763387	4.02E-08	5.05E-20	4.02E-08	4.02E-08	4.02E-08	4.02E-08	4.02E-08	4.02E-08	4.02E-08	6.85E-33	0	0.000194298	0	0.000158597	1.52E-15	0.000158597	1.95E-05	1.99E-05	4.32E-10	1.95E-05
Comp Mole Frac (990-1010F_3*)		0.026990182	0	0	0	0	2.98E-16	0.000755716	0.000755716	2.37E-08	1.18E-20	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	5.97E-34	0	0.000192346	0	0.000157003	5.85E-16	0.000157003	1.93E-05	1.97E-05	2.18E-10	1.93E-05
Comp Mole Frac (1010-1030F_3*)		0.026350363	0	0	0	0	7.81E-17	0.000737801	0.000737801	1.11E-08	1.50E-21	1.11E-08	1.11E-08	1.11E-08	1.11E-08	1.11E-08	1.11E-08	1.11E-08	1.82E-35	0	0.000187786	0	0.000153281	1.52E-16	0.000153281	1.88E-05	1.93E-05	8.26E-11	1.88E-05
Comp Mole Frac (1030-1050F_3*)		0.025726868	0	0	0	0	2.43E-17	0.000720343	0.000720343	5.74E-09	2.50E-22	5.74E-09	5.74E-09	5.74E-09	5.74E-09	5.74E-09	5.74E-09	5.74E-09	8.93E-37	0	0.000183343	0	0.000149654	4.72E-17	0.000149654	1.84E-05	1.88E-05	3.54E-11	1.84E-05
Comp Mole Frac (1050-1070F_3*)		0.025103089	0	0	0	0	7.12E-18	0.000702878	0.000702878	2.87E-09	3.80E-23	2.87E-09	2.87E-09	2.87E-09	2.87E-09	2.87E-09	2.87E-09	2.87E-09	3.79E-38	0	0.000178897	0	0.000146026	1.38E-17	0.000146026	1.80E-05	1.84E-05	1.45E-11	1.80E-05
Comp Mole Frac (1070-1090F_3*)		0.023967743	0	0	0	0	1.74E-18	0.000671088	0.000671088	1.27E-09	4.39E-24	1.27E-09	1.27E-09	1.27E-09	1.27E-09	1.27E-09	1.27E-09	1.27E-09	1.02E-39	0	0.000170806	0	0.000139421	3.35E-18	0.000139421	1.71E-05	1.75E-05	5.17E-12	1.71E-05
Comp Mole Frac (1090-1110F_3*)		0.023480978	0	0	0	0	5.86E-19	0.000657459	0.000657459	6.87E-10	8.23E-25	6.87E-10	6.87E-10	6.87E-10	6.87E-10	6.87E-10	6.87E-10	6.87E-10	6.30E-41	0	0.000167337	0	0.00013659	1.12E-18	0.00013659	1.68E-05	1.72E-05	2.34E-12	1.68E-05
Comp Mole Frac (1110-1130F_3*)		0.021544924	0	0	0	0	8.57E-20	0.00060325	0.00060325	2.21E-10	4.32E-26	2.21E-10	2.21E-10	2.21E-10	2.21E-10	2.21E-10	2.21E-10	2.21E-10	4.57E-43	0	0.00015354	0	0.000125328	1.63E-19	0.000125328	1.54E-05	1.58E-05	5.64E-13	1.54E-05
Comp Mole Frac (1130-1150F_3*)		0.021329674	0	0	0	0	4.48E-20	0.000597223	0.000597223	1.53E-10	1.59E-26	1.53E-10	1.53E-10	1.53E-10	1.53E-10	1.53E-10	1.53E-10	1.53E-10	8.71E-44	0	0.000152006	0	0.000124076	8.50E-20	0.000124076	1.53E-05	1.56E-05	3.52E-13	1.53E-05
Comp Mole Frac (1150-1170F_3*)		0.019551612	0	0	0	0	9.99E-21	0.000547438	0.000547438	6.28E-11	1.61E-27	6.28E-11	6.28E-11	6.28E-11	6.28E-11	6.28E-11	6.28E-11	6.28E-11	1.78E-45	0	0.000139335	0	0.000113733	1.89E-20	0.000113733	1.40E-05	1.43E-05	1.15E-13	1.40E-05
Comp Mole Frac (1170-1190F_3*)		0.018594291	0	0	0	0	3.08E-21	0.000520634	0.000520634	3.15E-11	2.65E-28	3.15E-11	3.15E-11	3.15E-11	3.15E-11	3.15E-11	3.15E-11	3.15E-11	8.59E-47	0	0.000132512	0	0.000108164	5.79E-21	0.000108164	1.33E-05	1.36E-05	4.80E-14	1.33E-05
Comp Mole Frac (1190-1210F_3*)		0.017443902	0	0	0	0	1.03E-21	0.000488423	0.000488423	1.63E-11	4.95E-29	1.63E-11	1.63E-11	1.63E-11	1.63E-11	1.63E-11	1.63E-11	1.63E-11	0	0	0.000124314	0	0.000101472	1.92E-21	0.000101472	1.25E-05	1.28E-05	2.11E-14	1.25E-05
Comp Mole Frac (1210-1230F_3*)		0.015718551	0	0	0	0	1.94E-22	0.000440114	0.000440114	6.01E-12	3.89E-30	6.01E-12	6.01E-12	6.01E-12	6.01E-12	6.01E-12	6.01E-12	6.01E-12	0	0	0.000112018	0	9.14E-05	3.62E-22	9.14E-05	1.12E-05	1.15E-05	6.06E-15	1.12E-05
Comp Mole Frac (1230-1250F_3*)		0.015292943	0	0	0	0	9.38E-23	0.000428197	0.000428197	3.92E-12	1.27E-30	3.92E-12	3.92E-12	3.92E-12	3.92E-12	3.92E-12	3.92E-12	3.92E-12	0	0	0.000108985	0	8.90E-05	1.74E-22	8.90E-05	1.09E-05	1.12E-05	3.53E-15	1.09E-05
Comp Mole Frac (1250-1270F_3*)		0.012881703	0	0	0	0	1.14E-23	0.000360683	0.000360683	1.07E-12	5.15E-32	1.07E-12	1.07E-12	1.07E-12	1.07E-12	1.07E-12	1.07E-12	1.07E-12	0	0	9.18E-05	0	7.49E-05	2.11E-23	7.49E-05	9.21E-06	9.42E-06	7.14E-16	9.21E-06
Comp Mole Frac (1270-1290F_3*)		0.012881632	0	0	0	0	2.72E-24	0.000360681	0.000360681	4.78E-13	5.55E-33	4.78E-13	4.78E-13	4.78E-13	4.78E-13	4.78E-13	4.78E-13	4.78E-13	0	0	9.18E-05	0	7.49E-05	5.02E-24	7.49E-05	9.21E-06	9.42E-06	2.51E-16	9.21E-06
Comp Mole Frac (1290-1310F_3*)		0.0104536	0	0	0	0	3.27E-25	0.000292697	0.000292697	1.26E-13	2.22E-34	1.26E-13	1.26E-13	1.26E-13	1.26E-13	1.26E-13	1.26E-13	1.26E-13	0	0	7.45E-05	0	6.08E-05	5.98E-25	6.08E-05	7.48E-06	7.65E-06	4.92E-17	7.48E-06
Comp Mole Frac (1310-1330F_3*)		0.010183753	0	0	0	0	1.49E-25	0.000285141	0.000285141	7.93E-14	6.56E-35	7.93E-14	7.93E-14	7.93E-14	7.93E-14	7.93E-14	7.93E-14	7.93E-14	0	0	7.26E-05	0	5.92E-05	2.72E-25	5.92E-05	7.28E-06	7.45E-06	2.73E-17	7.28E-06
Comp Mole Frac (1330-1350F_3*)		0.008626471	0	0	0	0	3.09E-26	0.000241538	0.000241538	2.93E-14	6.04E-36	2.93E-14	2.93E-14	2.93E-14	2.93E-14	2.93E-14	2.93E-14	2.93E-14	0	0	6.15E-05	0	5.02E-05	5.62E-26	5.02E-05	6.17E-06	6.31E-06	8.11E-18	6.17E-06
Comp Mole Frac (1350-1370F_3*)		0.007787974	0	0	0	0	7.71E-27	0.00021806	0.00021806	1.24E-14	7.22E-37	1.24E-14	1.24E-14	1.24E-14	1.24E-14	1.24E-14	1.24E-14	1.24E-14	0	0	5.55E-05	0	4.53E-05	1.40E-26	4.53E-05	5.57E-06	5.70E-06	2.82E-18	5.57E-06
Comp Mole Frac (1370-1390F_3*)		0.006992381	0	0	0	0	2.49E-27	0.000195784	0.000195784	6.13E-15	1.30E-37	6.13E-15	6.13E-15	6.13E-15	6.13E-15	6.13E-15	6.13E-15	6.13E-15	0	0	4.98E-05	0	4.07E-05	4.52E-27	4.07E-05	5.00E-06	5.12E-06	1.18E-18	5.00E-06
Comp Mole Frac (1390-1410F_3*)		0.005798971	0	0	0	0	3.49E-28	0.000162369	0.000162369	1.78E-15	6.51E-39	1.78E-15	1.78E-15	1.78E-15	1.78E-15	1.78E-15	1.78E-15	1.78E-15	0	0	4.13E-05	0	3.37E-05	6.30E-28	3.37E-05	4.15E-06	4.24E-06	2.61E-19	4.15E-06
Comp Mole Frac (1410-1430F_3*)		0.005560172	0	0	0	0	1.62E-28	0.000155683	0.000155683	1.12E-15	2.01E-39	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	1.12E-15	0	0	3.96E-05	0	3.23E-05	2.93E-28	3.23E-05	3.98E-06	4.07E-06	1.46E-19	3.98E-06
Comp Mole Frac (1430-1450F_3*)		0.004206963	0	0	0	0	1.36E-29	0.000117793	0.000117793	2.32E-16	4.70E-41	2.32E-16	2.32E-16	2.32E-16	2.32E-16	2.32E-16	2.32E-16	2.32E-16	0	0	3.00E-05	0	2.45E-05	2.43E-29	2.45E-05	3.01E-06	3.08E-06	2.14E-20	3.01E-06
Comp Mole Frac (1450-1470F_3*)		0.004207009	0	0	0	0	2.79E-30	0.000117795	0.000117795	9.33E-17	3.96E-42	9.33E-17	9.33E-17	9.33E-17	9.33E-17	9.33E-17	9.33E-17	9.33E-17	0	0	3.00E-05	0	2.45E-05	5.01E-30	2.45E-05	3.01E-06	3.08E-06	6.69E-21	3.01E-06
Comp Mole Frac (1470-1490F_3*)		0.003098315	0	0	0	0	2.30E-31	8.68E-05	8.68E-05	1.89E-17	9.21E-44	1.89E-17	1.89E-17	1.89E-17	1.89E-17	1.89E-17	1.89E-17	1.89E-17	0	0	2.21E-05	0	1.80E-05	4.10E-31	1.80E-05	2.22E-06	2.27E-06	9.62E-22	2.22E-06
Comp Mole Frac (1490-1510F_3*)		0.002975138	0	0	0	0	8.77E-32	8.33E-05	8.33E-05	1.06E-17	2.08E-44	1.06E-17	1.06E-17	1.06E-17	1.06E-17	1.06E-17	1.06E-17	1.06E-17	0	0	2.12E-05	0	1.73E-05	1.56E-31	1.73E-05	2.13E-06	2.18E-06	4.67E-22	2.13E-06
Comp Mole Frac (1510-1530F_1*)		0.002373206	0	0	0	0	1.40E-32	6.64E-05	6.64E-05	3.29E-18	1.32E-45	3.29E-18	3.29E-18	3.29E-18	3.29E-18	3.29E-18	3.29E-18	3.29E-18	0	0	1.69E-05	0	1.38E-05	2.49E-32	1.38E-05	1.70E-06	1.74E-06	1.13E-22	1.70E-06
Comp Mole Frac (1530-1550F_1*)		0.002049088	0	0	0	0	2.35E-33	5.74E-05	5.74E-05	1.09E-18	8.64E-47	1.09E-18	1.09E-18	1.09E-18	1.09E-18	1.09E-18	1.09E-18	1.09E-18	0	0	1.46E-05	0	1.19E-05	4.17E-33	1.19E-05	1.47E-06	1.50E-06	2.88E-23	1.47E-06
Comp Mole Frac (1550-1570F_1*)		0.001780206	0	0	0	0	6.52E-34	4.98E-05	4.98E-05	4.84E-19	1.24E-47	4.84E-19	4.84E-19	4.84E-19	4.84E-19	4.84E-19	4.84E-19	4.84E-19	0	0	1.27E-05	0	1.04E-05	1.15E-33	1.04E-05	1.27E-06	1.30E-06	1.07E-23	1.27E-06
Comp Mole Frac (1570-1590F_1*)		0.001376835	0	0	0	0	5.37E-35	3.86E-05	3.86E-05	1.01E-19	2.83E-49	1.01E-19	1.01E-19	1.01E-19	1.01E-19	1.01E-19	1.01E-19	1.01E-19	0	0	9.81E-06	0	8.01E-06	9.46E-35	8.01E-06	9.85E-07	1.01E-06	1.57E-24	9.85E-07
Comp Mole Frac (1590-1610F_1*)		0.001305586	0	0	0	0	2.28E-35	3.66E-05	3.66E-05	5.97E-20	7.59E-50	5.97E-20	5.97E-20	5.97E-20	5.97E-20	5.97E-20	5.97E-20	5.97E-20	0	0	9.30E-06	0	7.59E-06	4.02E-35	7.59E-06	9.34E-07	9.55E-07	8.20E-25	9.34E-07
Comp Mole Frac (1610-1630F_1*)		0.000901838	0	0	0	0	1.04E-36	2.53E-05	2.53E-05	8.35E-21	7.25E-52	8.35E-21	8.35E-21	8.35E-21	8.35E-21	8.35E-21	8.35E-21	8.35E-21	0	0	6.43E-06	0	5.25E-06	1.82E-36	5.25E-06	6.45E-07	6.60E-07	7.50E-26	6.45E-07
Comp Mole Frac (1630-1650F_1*)		0.000901848	0	0	0	0	1.80E-37	2.53E-05	2.53E-05	3.01E-21	4.61E-53	3.01E-21	3.01E-21	3.01E-21	3.01E-21	3.01E-21	3.01E-21	3.01E-21	0	0	6.43E-06	0	5.25E-06	3.17E-37	5.25E-06	6.45E-07	6.60E-07	2.05E-26	6.45E-07
Comp Mole Frac (1650-1670F_1*)		0.001494129	0	0	0	0	1.56E-38	4.18E-05	4.18E-05	8.78E-22	7.29E-55	8.78E-22	8.78E-22	8.78E-22	8.78E-22	8.78E-22	8.78E-22	8.78E-22	0	0	1.06E-05	0	8.69E-06	2.73E-38	8.69E-06	1.07E-06	1.09E-06	3.77E-27	1.07E-06
Comp Mole Frac (1670-1690F_1*)		0.001559936	0	0	0	0	7.85E-39	4.37E-05	4.37E-05	5.98E-22	2.41E-55	5.98E-22	5.98E-22	5.98E-22	5.98E-22	5.98E-22	5.98E-22	5.98E-22	0	0	1.11E-05	0	9.07E-06	1.38E-38	9.07E-06	1.12E-06	1.14E-06	2.29E-27	1.12E-06
Comp Mole Frac (1690-1710F_1*)		0.000563822	0	0	0	0	4.02E-39	1.58E-05	1.58E-05	2.65E-22	1.51E-55	2.65E-22	2.65E-22	2.65E-22	2.65E-22	2.65E-22	2.65E-22	2.65E-22	0	0	4.02E-06	0	3.28E-06	7.04E-39	3.28E-06	4.03E-07	4.12E-07	1.07E-27	4.03E-07
Comp Mole Frac (1710-1730F_1*)		2.74E-05	0	0	0	0	3.08E-42	7.69E-07	7.69E-07	1.12E-24	1.06E-59	1.12E-24	1.12E-24	1.12E-24	1.12E-24	1.12E-24	1.12E-24	1.12E-24	0	0	1.96E-07	0	1.60E-07	5.39E-42	1.60E-07	1.96E-08	2.01E-08	0	1.96E-08
Comp Mole Frac (1730-1750F_1*)		1.65E-05	0	0	0	0	1.93E-42	4.61E-07	4.61E-07	6.91E-25	6.80E-60	6.91E-25	6.91E-25	6.91E-25	6.91E-25	6.91E-25	6.91E-25	6.91E-25	0	0	1.17E-07	0	9.58E-08	3.38E-42	9.58E-08	1.18E-08	1.20E-08	0	1.18E-08
Comp Mole Frac (Solid20000*)		0	0	0	0	0	0	0.003578253	0.003578253	0	0	0	0	0	0	0	0	0	0	0	0.992873499	1	0.810437757	0	0.810437757	0.976688922	0.998877872	0	0.976688922

Aspen HYSYS Heat & Material Balance Stream Compositions	Unit	89	90	132	Shaker HC Product	Shaker Sand Product	HC To Fractionation	Decanter Solid Product	Decanter Vent to VRU	Decanter Auger Solids	91	92	Inerts	Nitrogen	94	95	97	Total Solids	93	100	Misc Pad Gas	11	12	13	16	17	18	21	22
Comp Mole Frac (Nitrogen)		0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	6.57E-07	0.00017554	1	1	0.00017554	0.00017554	0.00017554	0.000182293	0.385878011	0.000182293	3.31E-07	3.31E-07
Comp Mole Frac (90-100F_3*)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Comp Mole Frac (100-110F_3*)		7.87E-06	7.87E-06	1.63E-06	7.87E-06	2.01E-07	8.58E-06	8.52E-07	6.15E-05	8.52E-07	6.15E-05	6.15E-05	0	0	0	0	0	1.86E-08	8.16E-06	0	0	8.16E-06	8.16E-06	8.16E-06	8.46E-06	3.63E-05	8.46E-06	4.97E-07	4.97E-07
Comp Mole Frac (110-120F_3*)		0.000991288	0.000991288	0.000205764	0.000991288	2.53E-05	0.001081227	0.00010734	0.007001544	0.00010734	0.007001544	0.007001544	0	0	0	0	0	2.35E-06	0.001031395	0	0	0.001031395	0.001031395	0.001031395	0.001068565	0.004146806	0.001068565	6.70E-05	6.70E-05
Comp Mole Frac (120-130F_3*)		0.005490615	0.005490615	0.001139698	0.005490615	0.000140152	0.005988776	0.000594541	0.029823829	0.000594541	0.029823829	0.029823829	0	0	0	0	0	1.31E-05	0.005755448	0	0	0.005755448	0.005755448	0.005755448	0.005960063	0.017799503	0.005960063	0.000446923	0.000446923
Comp Mole Frac (130-140F_3*)		0.014364045	0.014364045	0.002981573	0.014364045	0.000366654	0.015667288	0.001555383	0.073433449	0.001555383	0.073433449	0.073433449	0	0	0	0	0	3.44E-05	0.015083759	0	0	0.015083759	0.015083759	0.015083759	0.015618219	0.043905665	0.015618219	0.001217726	0.001217726
Comp Mole Frac (140-150F_3*)		0.021415706	0.021415706	0.0044453	0.021415706	0.000546653	0.023358742	0.002318958	0.078749508	0.002318958	0.078749508	0.078749508	0	0	0	0	0	5.18E-05	0.022713785	0	0	0.022713785	0.022713785	0.022713785	0.023506887	0.047515896	0.023506887	0.00213754	0.00213754
Comp Mole Frac (150-160F_3*)		0.025207148	0.025207148	0.005232297	0.025207148	0.000643432	0.027494179	0.002729507	0.085729192	0.002729507	0.085729192	0.085729192	0	0	0	0	0	6.11E-05	0.026798013	0	0	0.026798013	0.026798013	0.026798013	0.027728878	0.051847419	0.027728878	0.002647628	0.002647628
Comp Mole Frac (160-170F_3*)		0.026137273	0.026137273	0.005425365	0.026137273	0.000667175	0.028508694	0.002830224	0.068885101	0.002830224	0.068885101	0.068885101	0	0	0	0	0	6.41E-05	0.027996475	0	0	0.027996475	0.027996475	0.027996475	0.028950695	0.041968595	0.028950695	0.003240192	0.003240192
Comp Mole Frac (170-180F_3*)		0.031184317	0.031184317	0.00647299	0.031184317	0.000796004	0.034013654	0.003376733	0.069928536	0.003376733	0.069928536	0.069928536	0	0	0	0	0	7.71E-05	0.033553649	0	0	0.033553649	0.033553649	0.033553649	0.034679997	0.042797322	0.034679997	0.004331648	0.004331648
Comp Mole Frac (180-190F_3*)		0.039736377	0.039736377	0.008248158	0.039736377	0.001014302	0.043341637	0.004302776	0.075123744	0.004302776	0.075123744	0.075123744	0	0	0	0	0	9.93E-05	0.042947362	0	0	0.042947362	0.042947362	0.042947362	0.044363382	0.046181833	0.044363382	0.006210117	0.006210117
Comp Mole Frac (190-200F_3*)		0.052782647	0.052782647	0.010956198	0.052782647	0.001347319	0.057571589	0.005715466	0.081094754	0.005715466	0.081094754	0.081094754	0	0	0	0	0	0.000133749	0.057331083	0	0	0.057331083	0.057331083	0.057331083	0.059177472	0.050088899	0.059177472	0.009428323	0.009428323
Comp Mole Frac (200-210F_3*)		0.069363563	0.069363563	0.014397931	0.069363563	0.00177056	0.075656883	0.007510898	0.093395895	0.007510898	0.093395895	0.093395895	0	0	0	0	0	0.000177493	0.0755541	0	0	0.0755541	0.0755541	0.0755541	0.077946791	0.057839691	0.077946791	0.013478078	0.013478078
Comp Mole Frac (210-220F_3*)		0.076249184	0.076249184	0.015827193	0.076249184	0.001946321	0.083167233	0.008256494	0.078383875	0.008256494	0.078383875	0.078383875	0	0	0	0	0	0.000199519	0.08346632	0	0	0.08346632	0.08346632	0.08346632	0.086010691	0.048754577	0.086010691	0.017455116	0.017455116
Comp Mole Frac (220-230F_3*)		0.076451925	0.076451925	0.015869277	0.076451925	0.001951496	0.083388368	0.008278447	0.072675445	0.008278447	0.072675445	0.072675445	0	0	0	0	0	0.000201505	0.083790438	0	0	0.083790438	0.083790438	0.083790438	0.086312829	0.045250085	0.086312829	0.018349475	0.018349475
Comp Mole Frac (230-240F_3*)		0.078124928	0.078124928	0.016216545	0.078124928	0.001994201	0.085213162	0.008459605	0.052012958	0.008459605	0.052012958	0.052012958	0	0	0	0	0	0.000213784	0.086000463	0	0	0.086000463	0.086000463	0.086000463	0.088423358	0.032489716	0.088423358	0.023140815	0.023140815
Comp Mole Frac (240-250F_3*)		0.074264057	0.074264057	0.015415137	0.074264057	0.001895649	0.081001996	0.008041538	0.045691989	0.008041538	0.045691989	0.045691989	0	0	0	0	0	0.00020512	0.081810147	0	0	0.081810147	0.081810147	0.081810147	0.084076644	0.028552967	0.084076644	0.023008122	0.023008122
Comp Mole Frac (250-260F_3*)		0.058531474	0.058531474	0.012149493	0.058531474	0.001494062	0.063842004	0.006337966	0.0270084	0.006337966	0.0270084	0.0270084	0	0	0	0	0	0.000167897	0.064608891	0	0	0.064608891	0.064608891	0.064608891	0.066276482	0.016889055	0.066276482	0.021344877	0.021344877
Comp Mole Frac (260-270F_3*)		0.0539962	0.0539962	0.011208098	0.0539962	0.001378296	0.058895247	0.005846873	0.021550767	0.005846873	0.021550767	0.021550767	0	0	0	0	0	0.000158218	0.05964297	0	0	0.05964297	0.05964297	0.05964297	0.061119602	0.013474653	0.061119602	0.021333208	0.021333208
Comp Mole Frac (270-280F_3*)		0.046027301	0.046027301	0.009553978	0.046027301	0.001174883	0.050203334	0.004983976	0.014567914	0.004983976	0.014567914	0.014567914	0	0	0	0	0	0.00014004	0.05087536	0	0	0.05087536	0.05087536	0.05087536	0.052040188	0.00910185	0.052040188	0.020655032	0.020655032
Comp Mole Frac (280-290F_3*)		0.037475325	0.037475325	0.007778827	0.037475325	0.000956587	0.040875441	0.004057942	0.009569895	0.004057942	0.009569895	0.009569895	0	0	0	0	0	0.000118565	0.041433496	0	0	0.041433496	0.041433496	0.041433496	0.042301568	0.005971705	0.042301568	0.018912204	0.018912204
Comp Mole Frac (290-300F_3*)		0.02781168	0.02781168	0.005772925	0.02781168	0.000709915	0.030335019	0.003011533	0.005987897	0.003011533	0.005987897	0.005987897	0	0	0	0	0	9.10E-05	0.030749132	0	0	0.030749132	0.030749132	0.030749132	0.031340699	0.00373146	0.031340699	0.015401532	0.015401532
Comp Mole Frac (300-310F_3*)		0.019128933	0.019128933	0.00397063	0.019128933	0.000488281	0.020864492	0.002071339	0.00303146	0.002071339	0.00303146	0.00303146	0	0	0	0	0	6.71E-05	0.021140759	0	0	0.021140759	0.021140759	0.021140759	0.021471801	0.001883054	0.021471801	0.012552201	0.012552201
Comp Mole Frac (310-320F_3*)		0.028814075	0.028814075	0.005980994	0.028814075	0.000735502	0.031428361	0.003120076	0.004198389	0.003120076	0.004198389	0.004198389	0	0	0	0	0	0.000103212	0.031838488	0	0	0.031838488	0.031838488	0.031838488	0.03230235	0.002605156	0.03230235	0.019804058	0.019804058
Comp Mole Frac (320-330F_3*)		0.01869457	0.01869457	0.003880469	0.01869457	0.000477194	0.020390718	0.002024305	0.00182348	0.002024305	0.00182348	0.00182348	0	0	0	0	0	7.46E-05	0.020630047	0	0	0.020630047	0.020630047	0.020630047	0.020810432	0.001124577	0.020810432	0.015950143	0.015950143
Comp Mole Frac (330-340F_3*)		0.002764968	0.002764968	0.00057393	0.002764968	7.06E-05	0.003015832	0.000299399	0.000249479	0.000299399	0.000249479	0.000249479	0	0	0	0	0	1.13E-05	0.003050232	0	0	0.003050232	0.003050232	0.003050232	0.003072988	0.000153642	0.003072988	0.002459867	0.002459867
Comp Mole Frac (340-350F_3*)		0.000168316	0.000168316	3.49E-05	0.000168316	4.30E-06	0.000183587	1.82E-05	1.09E-05	1.82E-05	1.09E-05	1.09E-05	0	0	0	0	0	7.62E-07	0.000185373	0	0	0.000185373	0.000185373	0.000185373	0.000185629	6.67E-06	0.000185629	0.000178738	0.000178738
Comp Mole Frac (350-360F_3*)		2.82E-05	2.82E-05	5.86E-06	2.82E-05	7.21E-07	3.08E-05	3.06E-06	1.58E-06	3.06E-06	1.58E-06	1.58E-06	0	0	0	0	0	1.34E-07	3.11E-05	0	0	3.11E-05	3.11E-05	3.11E-05	3.10E-05	9.64E-07	3.10E-05	3.24E-05	3.24E-05
Comp Mole Frac (360-370F_3*)		4.75E-08	4.75E-08	9.87E-09	4.75E-08	1.21E-09	5.18E-08	5.15E-09	1.86E-09	5.15E-09	1.86E-09	1.86E-09	0	0	0	0	0	2.50E-10	5.22E-08	0	0	5.22E-08	5.22E-08	5.22E-08	5.18E-08	1.12E-09	5.18E-08	6.15E-08	6.15E-08
Comp Mole Frac (370-380F_3*)		1.03E-07	1.03E-07	2.14E-08	1.03E-07	2.63E-09	1.12E-07	1.11E-08	2.93E-09	1.11E-08	2.93E-09	2.93E-09	0	0	0	0	0	6.17E-10	1.13E-07	0	0	1.13E-07	1.13E-07	1.13E-07	1.11E-07	1.75E-09	1.11E-07	1.62E-07	1.62E-07
Comp Mole Frac (380-390F_3*)		1.40E-07	1.40E-07	2.90E-08	1.40E-07	3.57E-09	1.52E-07	1.51E-08	3.52E-09	1.51E-08	3.52E-09	3.52E-09	0	0	0	0	0	8.82E-10	1.53E-07	0	0	1.53E-07	1.53E-07	1.53E-07	1.50E-07	2.10E-09	1.50E-07	2.36E-07	2.36E-07
Comp Mole Frac (390-400F_3*)		4.65E-07	4.65E-07	9.66E-08	4.65E-07	1.19E-08	5.07E-07	5.04E-08	8.44E-09	5.04E-08	8.44E-09	8.44E-09	0	0	0	0	0	3.39E-09	5.07E-07	0	0	5.07E-07	5.07E-07	5.07E-07	4.89E-07	4.94E-09	4.89E-07	9.60E-07	9.60E-07
Comp Mole Frac (400-410F_3*)		5.47E-07	5.47E-07	1.13E-07	5.47E-07	1.40E-08	5.96E-07	5.92E-08	8.74E-09	5.92E-08	8.74E-09	8.74E-09	0	0	0	0	0	4.19E-09	5.94E-07	0	0	5.94E-07	5.94E-07	5.94E-07	5.71E-07	5.09E-09	5.71E-07	1.20E-06	1.20E-06
Comp Mole Frac (410-420F_3*)		2.14E-06	2.14E-06	4.45E-07	2.14E-06	5.47E-08	2.34E-06	2.32E-07	2.50E-08	2.32E-07	2.50E-08	2.50E-08	0	0	0	0	0	1.90E-08	2.32E-06	0	0	2.32E-06	2.32E-06	2.32E-06	2.19E-06	1.42E-08	2.19E-06	5.70E-06	5.70E-06
Comp Mole Frac (420-430F_3*)		1.30E-05	1.30E-05	2.69E-06	1.30E-05	3.31E-07	1.41E-05	1.40E-06	1.04E-07	1.40E-06	1.04E-07	1.04E-07	0	0	0	0	0	1.35E-07	1.39E-05	0	0	1.39E-05	1.39E-05	1.39E-05	1.28E-05	5.76E-08	1.28E-05	4.25E-05	4.25E-05
Comp Mole Frac (430-440F_3*)		5.62E-05	5.62E-05	1.17E-05	5.62E-05	1.44E-06	6.13E-05	6.09E-06	4.48E-07	6.09E-06	4.48E-07	4.48E-07	0	0	0	0	0	5.87E-07	6.05E-05	0	0	6.05E-05	6.05E-05	6.05E-05	5.57E-05	2.48E-07	5.57E-05	0.00018556	0.00018556
Comp Mole Frac (440-450F_3*)		9.06E-05	9.06E-05	1.88E-05	9.06E-05	2.31E-06	9.89E-05	9.82E-06	5.19E-07	9.82E-06	5.19E-07	5.19E-07	0	0	0	0	0	1.08E-06	9.69E-05	0	0	9.69E-05	9.69E-05	9.69E-05	8.69E-05	2.79E-07	8.69E-05	0.000355564	0.000355564
Comp Mole Frac (450-460F_3*)		0.000142272	0.000142272	2.95E-05	0.000142272	3.63E-06	0.00015518	1.54E-05	6.88E-07	1.54E-05	6.88E-07	6.88E-07	0	0	0	0	0	1.81E-06	0.000151584	0	0	0.000151584	0.000151584	0.000151584	0.000133968	3.63E-07	0.000133968	0.000608608	0.000608608
Comp Mole Frac (460-470F_3*)		0.000236897	0.000236897	4.92E-05	0.000236897	6.05E-06	0.000258391	2.57E-05	8.09E-07	2.57E-05	8.09E-07	8.09E-07	0	0	0	0	0	3.42E-06	0.000250618	0	0	0.000250618	0.000250618	0.000250618	0.000213753	4.10E-07	0.000213753	0.001207031	0.001207031
Comp Mole Frac (470-480F_3*)		0.000299979	0.000299979	6.23E-05	0.000299979	7.66E-06	0.000327196	3.25E-05	8.68E-07	3.25E-05	8.68E-07	8.68E-07	0	0	0	0	0	4.58E-06	0.000316288	0	0	0.000316288	0.000316288	0.000316288	0.000264823	4.31E-07	0.000264823	0.00165151	0.00165151
Comp Mole Frac (480-490F_3*)		0.000445505	0.000445505	9.25E-05	0.000445505	1.14E-05	0.000485926	4.82E-05	9.05E-07	4.82E-05	9.05E-07	9.05E-07	0	0	0	0	0	7.58E-06	0.000466289	0	0	0.000466289	0.000466289	0.000466289	0.000372475	4.27E-07	0.000372475	0.002900198	0.002900198
Comp Mole Frac (490-500F_3*)		0.000481891	0.000481891	0.000100027	0.000481891	1.23E-05	0.000525612	5.22E-05	9.19E-07	5.22E-05	9.19E-07	9.19E-07	0	0	0	0	0	8.35E-06	0.000503718	0	0	0.000503718	0.000503718	0.000503718	0.000398674	4.28E-07	0.000398674	0.003228988	0.003228988
Comp Mole Frac (500-510F_3*)		0.000630503	0.000630503	0.000130875	0.000630503	1.61E-05	0.000687708	6.83E-05	8.39E-07	6.83E-05	8.39E-07	8.39E-07	0	0	0	0	0	1.20E-05	0.000654292	0	0	0.000654292	0.000654292	0.000654292	0.000487465	3.66E-07	0.000487465	0.004982464	0.004982464
Comp Mole Frac (510-520F_3*)		0.000644214	0.000644214	0.000133721	0.000644214	1.64E-05	0.000702663	6.98E-05	6.89E-07	6.98E-05	6.89E-07	6.89E-07	0	0	0	0	0	1.29E-05	0.000665898	0	0	0.000665898	0.000665898	0.000665898	0.000477562	2.89E-07	0.000477562	0.005552111	0.005552111
Comp Mole Frac (520-530F_3*)		0.000699058	0.000699058	0.000145105	0.000699058	1.78E-05	0.000762484	7.57E-05	5.46E-07	7.57E-05	5.46E-07	5.46E-07	0	0	0	0	0	1.49E-05	0.000718644	0	0	0.000718644	0.000718644	0.000718644	0.000482454	2.14E-07	0.000482454	0.006846374	0.006846374
Comp Mole Frac (530-540F_3*)		0.000655613	0.000655613	0.000136087	0.000655613	1.67E-05	0.000715096	7.10E-05	4.05E-07	7.10E-05	4.05E-07	4.05E-07	0	0	0	0	0	1.45E-05	0.00067157	0	0	0.00067157	0.00067157	0.00067157	0.000428008	1.50E-07	0.000428008	0.00699056	0.00699056
Comp Mole Frac (540-550F_3*)		0.00059045	0.00059045	0.000122561	0.00059045	1.51E-05	0.000644021	6.39E-05	2.67E-07	6.39E-05	2.67E-07	2.67E-07	0	0	0	0	0	1.36E-05	0.000602217	0	0	0.000602217	0.000602217	0.000602217	0.000354964	9.12E-08	0.000354964	0.007016975	0.007016975
Comp Mole Frac (550-560F_3*)		0.000392327	0.000392327	8.14E-05	0.000392327	1.00E-05	0.000427922	4.25E-05	1.45E-07	4.25E-05	1.45E-07	1.45E-07	0	0	0	0	0	9.29E-06	0.000399176	0	0	0.000399176	0.000399176	0.000399176	0.000222966	4.70E-08	0.000222966	0.004970782	0.004970782
Comp Mole Frac (560-570F_3*)		0.00026025	0.00026025	5.40E-05	0.00026025	6.64E-06	0.000283863	2.82E-05	6.68E-08	2.82E-05	6.68E-08	6.68E-08	0	0	0	0	0	6.39E-06	0.000263783	0	0	0.000263783	0.000263783	0.000263783	0.000132436	1.94E-08	0.000132436	0.00367144	0.00367144
Comp Mole Frac (570-580F_3*)		0.000269272	0.000269272	5.59E-05	0.000269272	6.87E-06	0.000293703	2.92E-05	4.84E-08	2.92E-05	4.84E-08	4.84E-08	0	0	0	0	0	6.80E-06	0.000272091	0	0	0.000272091	0.000272091	0.000272091	0.0001216	1.25E-08	0.0001216	0.004176439	0.004176439
Comp Mole Frac (580-590F_3*)		0.00027153	0.00027153	5.64E-05	0.00027153	6.93E-06	0.000296165	2.94E-05	4.41E-08	2.94E-05	4.41E-08	4.41E-08	0	0	0	0	0	6.91E-06	0.000274166	0	0	0.000274166	0.000274166	0.000274166	0.000118356	1.10E-08	0.000118356	0.004316488	0.004316488
Comp Mole Frac (590-600F_3*)		0.000741964	0.000741964	0.000154011	0.000741964	1.89E-05	0.000809282	8.03E-05	7.86E-08	8.03E-05	7.86E-08	7.86E-08	0	0	0	0	0	1.93E-05	0.000747149	0	0	0.000747149	0.000747149	0.000747149	0.000276547	1.68E-08	0.000276547	0.012956473	0.012956473
Comp Mole Frac (600-610F_3*)		0.00062535	0.00062535	0.000129805	0.00062535	1.60E-05	0.000682088	6.77E-05	5.65E-08	6.77E-05	5.65E-08	5.65E-08	0	0	0	0	0	1.64E-05	0.000629202	0	0	0.000629202	0.000629202	0.000629202	0.000219361	1.14E-08	0.000219361	0.011262122	0.011262122
Comp Mole Frac (610-620F_3*)		0.000158893	0.000158893	3.30E-05	0.000158893	4.06E-06	0.000173309	1.72E-05	8.92E-09	1.72E-05	8.92E-09	8.92E-09	0	0	0	0	0	4.24E-06	0.000159549	0	0	0.000159549	0.000159549	0.000159549	4.59E-05	1.48E-09	4.59E-05	0.00310895	0.00310895
Comp Mole Frac (620-630F_3*)		0.000123269	0.000123269	2.56E-05	0.000123269	3.15E-06	0.000134454	1.33E-05	5.67E-09	1.33E-05	5.67E-09	5.67E-09	0	0	0	0	0	3.31E-06	0.000123696	0	0	0.000123696	0.000123696	0.000123696	3.27E-05	8.65E-10	3.27E-05	0.002485451	0.002485451
Comp Mole Frac (630-650F_3*)		0.000124303	0.000124303	2.58E-05	0.000124303	3.17E-06	0.000135581	1.35E-05	3.22E-09	1.35E-05	3.22E-09	3.22E-09	0	0	0	0	0	3.38E-06	0.000124548	0	0	0.000124548	0.000124548	0.000124548	2.53E-05	3.80E-10	2.53E-05	0.002698306	0.002698306
Comp Mole Frac (650-670F_3*)		9.80E-05	9.80E-05	2.03E-05	9.80E-05	2.50E-06	0.00010684	1.06E-05	1.22E-09	1.06E-05	1.22E-09	1.22E-09	0	0	0	0	0	2.69E-06	9.80E-05	0	0	9.80E-05	9.80E-05	9.80E-05	1.39E-05	1.01E-10	1.39E-05	0.002280423	0.002280423
Comp Mole Frac (670-690F_3*)		8.22E-05	8.22E-05	1.71E-05	8.22E-05	2.10E-06	8.96E-05	8.90E-06	5.97E-10	8.90E-06	5.97E-10	5.97E-10	0	0	0	0	0	2.27E-06	8.22E-05	0	0	8.22E-05	8.22E-05	8.22E-05	8.84E-06	3.74E-11	8.84E-06	0.001984677	0.001984677
Comp Mole Frac (690-710F_3*)		5.34E-05	5.34E-05	1.11E-05	5.34E-05	1.36E-06	5.83E-05	5.79E-06	1.67E-10	5.79E-06	1.67E-10	1.67E-10	0	0	0	0	0	1.48E-06	5.34E-05	0	0	5.34E-05	5.34E-05	5.34E-05	3.68E-06	6.74E-12	3.68E-06	0.001344223	0.001344223
Comp Mole Frac (710-730F_3*)		7.76E-05	7.76E-05	1.61E-05	7.76E-05	1.98E-06	8.47E-05	8.41E-06	1.11E-10	8.41E-06	1.11E-10	1.11E-10	0	0	0	0	0	2.16E-06	7.76E-05	0	0	7.76E-05	7.76E-05	7.76E-05	3.47E-06	2.92E-12	3.47E-06	0.00200087	0.00200087
Comp Mole Frac (730-750F_3*)		0.00017346	0.00017346	3.60E-05	0.00017346	4.43E-06	0.000189198	1.88E-05	1.16E-10	1.88E-05	1.16E-10	1.16E-10	0	0	0	0	0	4.82E-06	0.00017334	0	0	0.00017334	0.00017334	0.00017334	5.06E-06	2.00E-12	5.06E-06	0.004539165	0.004539165
Comp Mole Frac (750-770F_3*)		0.000451851	0.000451851	9.38E-05	0.000451851	1.15E-05	0.000492847	4.89E-05	1.43E-10	4.89E-05	1.43E-10	1.43E-10	0	0	0	0	0	1.26E-05	0.000451502	0	0	0.000451502	0.000451502	0.000451502	8.62E-06	1.62E-12	8.62E-06	0.01194159	0.01194159
Comp Mole Frac (770-790F_3*)		0.000597203	0.000597203	0.000123963	0.000597203	1.52E-05	0.000651387	6.47E-05	8.09E-11	6.47E-05	8.09E-11	8.09E-11	0	0	0	0	0	1.66E-05	0.000596713	0	0	0.000596713	0.000596713	0.000596713	7.05E-06	5.72E-13	7.05E-06	0.015895041	0.015895041
Comp Mole Frac (790-810F_3*)		0.000681199	0.000681199	0.000141398	0.000681199	1.74E-05	0.000743004	7.38E-05	4.00E-11	7.38E-05	4.00E-11	4.00E-11	0	0	0	0	0	1.90E-05	0.000680622	0	0	0.000680622	0.000680622	0.000680622	4.98E-06	1.76E-13	4.98E-06	0.018209576	0.018209576
Comp Mole Frac (810-830F_3*)		0.000750503	0.000750503	0.000155783	0.000750503	1.92E-05	0.000818596	8.13E-05	1.86E-11	8.13E-05	1.86E-11	1.86E-11	0	0	0	0	0	2.09E-05	0.000749857	0	0	0.000749857	0.000749857	0.000749857	3.35E-06	5.03E-14	3.35E-06	0.02011733	0.02011733
Comp Mole Frac (830-850F_3*)		0.000779547	0.000779547	0.000161812	0.000779547	1.99E-05	0.000850275	8.44E-05	8.15E-12	8.44E-05	8.15E-12	8.15E-12	0	0	0	0	0	2.17E-05	0.00077887	0	0	0.00077887	0.00077887	0.00077887	2.11E-06	1.34E-14	2.11E-06	0.020931056	0.020931056
Comp Mole Frac (850-870F_3*)		0.000754416	0.000754416	0.000156596	0.000754416	1.93E-05	0.000822863	8.17E-05	2.59E-12	8.17E-05	2.59E-12	2.59E-12	0	0	0	0	0	2.10E-05	0.000753757	0	0	0.000753757	0.000753757	0.000753757	1.08E-06	2.27E-15	1.08E-06	0.020281268	0.020281268
Comp Mole Frac (870-890F_3*)		0.000742013	0.000742013	0.000154021	0.000742013	1.89E-05	0.000809335	8.03E-05	1.23E-12	8.03E-05	1.23E-12	1.23E-12	0	0	0	0	0	2.07E-05	0.000741364	0	0	0.000741364	0.000741364	0.000741364	6.96E-07	7.09E-16	6.96E-07	0.019957261	0.019957261
Comp Mole Frac (890-910F_3*)		0.000761167	0.000761167	0.000157997	0.000761167	1.94E-05	0.000830227	8.24E-05	4.11E-13	8.24E-05	4.11E-13	4.11E-13	0	0	0	0	0	2.12E-05	0.0007605	0	0	0.0007605	0.0007605	0.0007605	3.72E-07	1.25E-16	3.72E-07	0.020481275	0.020481275
Comp Mole Frac (910-930F_3*)		0.000769369	0.000769369	0.0001597	0.000769369	1.96E-05	0.000839174	8.33E-05	1.87E-13	8.33E-05	1.87E-13	1.87E-13	0	0	0	0	0	2.14E-05	0.000768695	0	0	0.000768695	0.000768695	0.000768695	2.36E-07	3.59E-17	2.36E-07	0.020705608	0.020705608
Comp Mole Frac (930-950F_3*)		0.000785831	0.000785831	0.000163117	0.000785831	2.01E-05	0.000857129	8.51E-05	5.26E-14	8.51E-05	5.26E-14	5.26E-14	0	0	0	0	0	2.19E-05	0.000785143	0	0	0.000785143	0.000785143	0.000785143	1.12E-07	4.75E-18	1.12E-07	0.021151977	0.021151977
Comp Mole Frac (950-970F_3*)		0.000785296	0.000785296	0.000163005	0.000785296	2.00E-05	0.000856545	8.50E-05	3.70E-14	8.50E-05	3.70E-14	3.70E-14	0	0	0	0	0	2.19E-05	0.000784607	0	0	0.000784607	0.000784607	0.000784607	9.13E-08	2.72E-18	9.13E-08	0.021138107	0.021138107
Comp Mole Frac (970-990F_3*)		0.000764057	0.000764057	0.000158597	0.000764057	1.95E-05	0.00083338	8.27E-05	9.53E-15	8.27E-05	9.53E-15	9.53E-15	0	0	0	0	0	2.13E-05	0.000763387	0	0	0.000763387	0.000763387	0.000763387	4.02E-08	3.21E-19	4.02E-08	0.020567677	0.020567677
Comp Mole Frac (990-1010F_3*)		0.000756379	0.000756379	0.000157003	0.000756379	1.93E-05	0.000825004	8.19E-05	3.92E-15	8.19E-05	3.92E-15	3.92E-15	0	0	0	0	0	2.11E-05	0.000755716	0	0	0.000755716	0.000755716	0.000755716	2.37E-08	7.91E-20	2.37E-08	0.020361396	0.020361396
Comp Mole Frac (1010-1030F_3*)		0.000738448	0.000738448	0.000153281	0.000738448	1.88E-05	0.000805447	8.00E-05	1.11E-15	8.00E-05	1.11E-15	1.11E-15	0	0	0	0	0	2.06E-05	0.000737801	0	0	0.000737801	0.000737801	0.000737801	1.11E-08	1.09E-20	1.11E-08	0.019879028	0.019879028
Comp Mole Frac (1030-1050F_3*)		0.000720975	0.000720975	0.000149654	0.000720975	1.84E-05	0.000786389	7.81E-05	3.73E-16	7.81E-05	3.73E-16	3.73E-16	0	0	0	0	0	2.01E-05	0.000720343	0	0	0.000720343	0.000720343	0.000720343	5.74E-09	1.94E-21	5.74E-09	0.019408789	0.019408789
Comp Mole Frac (1050-1070F_3*)		0.000703494	0.000703494	0.000146026	0.000703494	1.80E-05	0.000767322	7.62E-05	1.18E-16	7.62E-05	1.18E-16	1.18E-16	0	0	0	0	0	1.96E-05	0.000702878	0	0	0.000702878	0.000702878	0.000702878	2.87E-09	3.18E-22	2.87E-09	0.01893827	0.01893827
Comp Mole Frac (1070-1090F_3*)		0.000671677	0.000671677	0.000139421	0.000671677	1.71E-05	0.000732618	7.27E-05	3.15E-17	7.27E-05	3.15E-17	3.15E-17	0	0	0	0	0	1.87E-05	0.000671088	0	0	0.000671088	0.000671088	0.000671088	1.27E-09	3.98E-23	1.27E-09	0.018081781	0.018081781
Comp Mole Frac (1090-1110F_3*)		0.000658036	0.000658036	0.00013659	0.000658036	1.68E-05	0.000717739	7.13E-05	1.13E-17	7.13E-05	1.13E-17	1.13E-17	0	0	0	0	0	1.83E-05	0.000657459	0	0	0.000657459	0.000657459	0.000657459	6.87E-10	7.96E-24	6.87E-10	0.017714569	0.017714569
Comp Mole Frac (1110-1130F_3*)		0.000603779	0.000603779	0.000125328	0.000603779	1.54E-05	0.00065856	6.54E-05	1.86E-18	6.54E-05	1.86E-18	1.86E-18	0	0	0	0	0	1.68E-05	0.00060325	0	0	0.00060325	0.00060325	0.00060325	2.21E-10	4.65E-25	2.21E-10	0.016253978	0.016253978
Comp Mole Frac (1130-1150F_3*)		0.000597747	0.000597747	0.000124076	0.000597747	1.53E-05	0.000651981	6.47E-05	1.01E-18	6.47E-05	1.01E-18	1.01E-18	0	0	0	0	0	1.66E-05	0.000597223	0	0	0.000597223	0.000597223	0.000597223	1.53E-10	1.78E-25	1.53E-10	0.01609159	0.01609159
Comp Mole Frac (1150-1170F_3*)		0.000547918	0.000547918	0.000113733	0.000547918	1.40E-05	0.000597631	5.93E-05	2.46E-19	5.93E-05	2.46E-19	2.46E-19	0	0	0	0	0	1.53E-05	0.000547438	0	0	0.000547438	0.000547438	0.000547438	6.28E-11	1.96E-26	6.28E-11	0.014750182	0.014750182
Comp Mole Frac (1170-1190F_3*)		0.00052109	0.00052109	0.000108164	0.00052109	1.33E-05	0.000568369	5.64E-05	8.13E-20	5.64E-05	8.13E-20	8.13E-20	0	0	0	0	0	1.45E-05	0.000520634	0	0	0.000520634	0.000520634	0.000520634	3.15E-11	3.44E-27	3.15E-11	0.014027958	0.014027958
Comp Mole Frac (1190-1210F_3*)		0.000488852	0.000488852	0.000101472	0.000488852	1.25E-05	0.000533205	5.29E-05	2.89E-20	5.29E-05	2.89E-20	2.89E-20	0	0	0	0	0	1.36E-05	0.000488423	0	0	0.000488423	0.000488423	0.000488423	1.63E-11	6.82E-28	1.63E-11	0.013160079	0.013160079
Comp Mole Frac (1210-1230F_3*)		0.0004405	0.0004405	9.14E-05	0.0004405	1.12E-05	0.000480466	4.77E-05	6.03E-21	4.77E-05	6.03E-21	6.03E-21	0	0	0	0	0	1.23E-05	0.000440114	0	0	0.000440114	0.000440114	0.000440114	6.01E-12	5.88E-29	6.01E-12	0.011858434	0.011858434
Comp Mole Frac (1230-1250F_3*)		0.000428573	0.000428573	8.90E-05	0.000428573	1.09E-05	0.000467457	4.64E-05	3.04E-21	4.64E-05	3.04E-21	3.04E-21	0	0	0	0	0	1.19E-05	0.000428197	0	0	0.000428197	0.000428197	0.000428197	3.92E-12	2.00E-29	3.92E-12	0.011537346	0.011537346
Comp Mole Frac (1250-1270F_3*)		0.000361	0.000361	7.49E-05	0.000361	9.21E-06	0.000393753	3.91E-05	4.16E-22	3.91E-05	4.16E-22	4.16E-22	0	0	0	0	0	1.01E-05	0.000360683	0	0	0.000360683	0.000360683	0.000360683	1.07E-12	9.05E-31	1.07E-12	0.009718251	0.009718251
Comp Mole Frac (1270-1290F_3*)		0.000360998	0.000360998	7.49E-05	0.000360998	9.21E-06	0.000393751	3.91E-05	1.08E-22	3.91E-05	1.08E-22	1.08E-22	0	0	0	0	0	1.01E-05	0.000360681	0	0	0.000360681	0.000360681	0.000360681	4.78E-13	1.06E-31	4.78E-13	0.009718198	0.009718198
Comp Mole Frac (1290-1310F_3*)		0.000292954	0.000292954	6.08E-05	0.000292954	7.48E-06	0.000319533	3.17E-05	1.46E-23	3.17E-05	1.46E-23	1.46E-23	0	0	0	0	0	8.16E-06	0.000292697	0	0	0.000292697	0.000292697	0.000292697	1.26E-13	4.72E-33	1.26E-13	0.007886435	0.007886435
Comp Mole Frac (1310-1330F_3*)		0.000285392	0.000285392	5.92E-05	0.000285392	7.28E-06	0.000311285	3.09E-05	6.96E-24	3.09E-05	6.96E-24	6.96E-24	0	0	0	0	0	7.95E-06	0.000285141	0	0	0.000285141	0.000285141	0.000285141	7.93E-14	1.46E-33	7.93E-14	0.007682856	0.007682856
Comp Mole Frac (1330-1350F_3*)		0.00024175	0.00024175	5.02E-05	0.00024175	6.17E-06	0.000263684	2.62E-05	1.57E-24	2.62E-05	1.57E-24	1.57E-24	0	0	0	0	0	6.73E-06	0.000241538	0	0	0.000241538	0.000241538	0.000241538	2.93E-14	1.45E-34	2.93E-14	0.006508007	0.006508007
Comp Mole Frac (1350-1370F_3*)		0.000218252	0.000218252	4.53E-05	0.000218252	5.57E-06	0.000238054	2.36E-05	4.24E-25	2.36E-05	4.24E-25	4.24E-25	0	0	0	0	0	6.08E-06	0.00021806	0	0	0.00021806	0.00021806	0.00021806	1.24E-14	1.87E-35	1.24E-14	0.005875425	0.005875425
Comp Mole Frac (1370-1390F_3*)		0.000195956	0.000195956	4.07E-05	0.000195956	5.00E-06	0.000213735	2.12E-05	1.46E-25	2.12E-05	1.46E-25	1.46E-25	0	0	0	0	0	5.46E-06	0.000195784	0	0	0.000195784	0.000195784	0.000195784	6.13E-15	3.55E-36	6.13E-15	0.005275212	0.005275212
Comp Mole Frac (1390-1410F_3*)		0.000162512	0.000162512	3.37E-05	0.000162512	4.15E-06	0.000177256	1.76E-05	2.27E-26	1.76E-05	2.27E-26	2.27E-26	0	0	0	0	0	4.53E-06	0.000162369	0	0	0.000162369	0.000162369	0.000162369	1.78E-15	1.97E-37	1.78E-15	0.004374877	0.004374877
Comp Mole Frac (1410-1430F_3*)		0.000155819	0.000155819	3.23E-05	0.000155819	3.98E-06	0.000169957	1.69E-05	1.10E-26	1.69E-05	1.10E-26	1.10E-26	0	0	0	0	0	4.34E-06	0.000155683	0	0	0.000155683	0.000155683	0.000155683	1.12E-15	6.32E-38	1.12E-15	0.004194721	0.004194721
Comp Mole Frac (1430-1450F_3*)		0.000117897	0.000117897	2.45E-05	0.000117897	3.01E-06	0.000128594	1.28E-05	1.05E-27	1.28E-05	1.05E-27	1.05E-27	0	0	0	0	0	3.28E-06	0.000117793	0	0	0.000117793	0.000117793	0.000117793	2.32E-16	1.67E-39	2.32E-16	0.003173829	0.003173829
Comp Mole Frac (1450-1470F_3*)		0.000117898	0.000117898	2.45E-05	0.000117898	3.01E-06	0.000128595	1.28E-05	2.38E-28	1.28E-05	2.38E-28	2.38E-28	0	0	0	0	0	3.28E-06	0.000117795	0	0	0.000117795	0.000117795	0.000117795	9.33E-17	1.54E-40	9.33E-17	0.003173864	0.003173864
Comp Mole Frac (1470-1490F_3*)		8.68E-05	8.68E-05	1.80E-05	8.68E-05	2.22E-06	9.47E-05	9.40E-06	2.24E-29	9.40E-06	2.24E-29	2.24E-29	0	0	0	0	0	2.42E-06	8.68E-05	0	0	8.68E-05	8.68E-05	8.68E-05	1.89E-17	4.05E-42	1.89E-17	0.00233744	0.00233744
Comp Mole Frac (1490-1510F_3*)		8.34E-05	8.34E-05	1.73E-05	8.34E-05	2.13E-06	9.09E-05	9.03E-06	9.02E-30	9.03E-06	9.02E-30	9.02E-30	0	0	0	0	0	2.32E-06	8.33E-05	0	0	8.33E-05	8.33E-05	8.33E-05	1.06E-17	9.63E-43	1.06E-17	0.002244512	0.002244512
Comp Mole Frac (1510-1530F_1*)		6.65E-05	6.65E-05	1.38E-05	6.65E-05	1.70E-06	7.25E-05	7.20E-06	1.59E-30	7.20E-06	1.59E-30	1.59E-30	0	0	0	0	0	1.85E-06	6.64E-05	0	0	6.64E-05	6.64E-05	6.64E-05	3.29E-18	6.69E-44	3.29E-18	0.001790401	0.001790401
Comp Mole Frac (1530-1550F_1*)		5.74E-05	5.74E-05	1.19E-05	5.74E-05	1.47E-06	6.26E-05	6.22E-06	2.94E-31	6.22E-06	2.94E-31	2.94E-31	0	0	0	0	0	1.60E-06	5.74E-05	0	0	5.74E-05	5.74E-05	5.74E-05	1.09E-18	4.79E-45	1.09E-18	0.001545879	0.001545879
Comp Mole Frac (1550-1570F_1*)		4.99E-05	4.99E-05	1.04E-05	4.99E-05	1.27E-06	5.44E-05	5.40E-06	8.73E-32	5.40E-06	8.73E-32	8.73E-32	0	0	0	0	0	1.39E-06	4.98E-05	0	0	4.98E-05	4.98E-05	4.98E-05	4.84E-19	7.35E-46	4.84E-19	0.001343028	0.001343028
Comp Mole Frac (1570-1590F_1*)		3.86E-05	3.86E-05	8.01E-06	3.86E-05	9.85E-07	4.21E-05	4.18E-06	8.22E-33	4.18E-06	8.22E-33	8.22E-33	0	0	0	0	0	1.07E-06	3.86E-05	0	0	3.86E-05	3.86E-05	3.86E-05	1.01E-19	1.89E-47	1.01E-19	0.001038716	0.001038716
Comp Mole Frac (1590-1610F_1*)		3.66E-05	3.66E-05	7.59E-06	3.66E-05	9.34E-07	3.99E-05	3.96E-06	3.66E-33	3.96E-06	3.66E-33	3.66E-33	0	0	0	0	0	1.02E-06	3.66E-05	0	0	3.66E-05	3.66E-05	3.66E-05	5.97E-20	5.32E-48	5.97E-20	0.000984964	0.000984964
Comp Mole Frac (1610-1630F_1*)		2.53E-05	2.53E-05	5.25E-06	2.53E-05	6.45E-07	2.76E-05	2.74E-06	1.97E-34	2.74E-06	1.97E-34	1.97E-34	0	0	0	0	0	7.04E-07	2.53E-05	0	0	2.53E-05	2.53E-05	2.53E-05	8.35E-21	5.92E-50	8.35E-21	0.000680368	0.000680368
Comp Mole Frac (1630-1650F_1*)		2.53E-05	2.53E-05	5.25E-06	2.53E-05	6.45E-07	2.76E-05	2.74E-06	3.77E-35	2.74E-06	3.77E-35	3.77E-35	0	0	0	0	0	7.04E-07	2.53E-05	0	0	2.53E-05	2.53E-05	2.53E-05	3.01E-21	4.12E-51	3.01E-21	0.000680375	0.000680375
Comp Mole Frac (1650-1670F_1*)		4.19E-05	4.19E-05	8.69E-06	4.19E-05	1.07E-06	4.57E-05	4.53E-06	3.90E-36	4.53E-06	3.90E-36	3.90E-36	0	0	0	0	0	1.17E-06	4.18E-05	0	0	4.18E-05	4.18E-05	4.18E-05	8.78E-22	7.69E-53	8.78E-22	0.001127205	0.001127205
Comp Mole Frac (1670-1690F_1*)		4.37E-05	4.37E-05	9.07E-06	4.37E-05	1.12E-06	4.77E-05	4.73E-06	2.05E-36	4.73E-06	2.05E-36	2.05E-36	0	0	0	0	0	1.22E-06	4.37E-05	0	0	4.37E-05	4.37E-05	4.37E-05	5.98E-22	2.64E-53	5.98E-22	0.001176852	0.001176852
Comp Mole Frac (1690-1710F_1*)		1.58E-05	1.58E-05	3.28E-06	1.58E-05	4.03E-07	1.72E-05	1.71E-06	1.03E-36	1.71E-06	1.03E-36	1.03E-36	0	0	0	0	0	4.40E-07	1.58E-05	0	0	1.58E-05	1.58E-05	1.58E-05	2.65E-22	1.62E-53	2.65E-22	0.00042536	0.00042536
Comp Mole Frac (1710-1730F_1*)		7.69E-07	7.69E-07	1.60E-07	7.69E-07	1.96E-08	8.39E-07	8.33E-08	1.01E-39	8.33E-08	1.01E-39	1.01E-39	0	0	0	0	0	2.14E-08	7.69E-07	0	0	7.69E-07	7.69E-07	7.69E-07	1.12E-24	1.43E-57	1.12E-24	2.07E-05	2.07E-05
Comp Mole Frac (1730-1750F_1*)		4.62E-07	4.62E-07	9.58E-08	4.62E-07	1.18E-08	5.03E-07	5.00E-08	6.29E-40	5.00E-08	6.29E-40	6.29E-40	0	0	0	0	0	1.29E-08	4.61E-07	0	0	4.61E-07	4.61E-07	4.61E-07	6.91E-25	9.16E-58	6.91E-25	1.24E-05	1.24E-05
Comp Mole Frac (Solid20000*)		0.086763776	0.086763776	0.810437757	0.086763776	0.976688922	0.003906331	0.901111999	0	0.901111999	0	0	0	0	0	0	0	0.99680161	0.003578253	0	0	0.003578253	0.003578253	0.003578253	0	0	0	0.096412518	0.096412518

Aspen HYSYS Heat & Material Balance Stream Compositions	Unit	25	23	44	48	Sales Oil	53	70	54	58	6	14	10	Solvent	19
Comp Mole Frac (Nitrogen)		3.31E-07	0.000182293	3.31E-07	0.002685045	3.31E-07	0.000182293	3.31E-07	3.31E-07	3.31E-07	0.000182293	3.31E-07	0.00017554	0	0
Comp Mole Frac (90-100F_3*)		0	0	0	0	0	0	0	0	0	0	0	0	0	0
Comp Mole Frac (100-110F_3*)		4.97E-07	8.46E-06	4.97E-07	1.72E-05	4.97E-07	8.46E-06	4.97E-07	4.97E-07	4.97E-07	8.46E-06	4.97E-07	8.16E-06	8.89E-06	7.87E-06
Comp Mole Frac (110-120F_3*)		6.70E-05	0.001068565	6.70E-05	0.002112576	6.70E-05	0.001068565	6.70E-05	6.70E-05	6.70E-05	0.001068565	6.70E-05	0.001031395	0.001119831	0.000991288
Comp Mole Frac (120-130F_3*)		0.000446923	0.005960063	0.000446923	0.010966928	0.000446923	0.005960063	0.000446923	0.000446923	0.000446923	0.005960063	0.000446923	0.005755448	0.006202599	0.005490615
Comp Mole Frac (130-140F_3*)		0.001217726	0.015618219	0.001217726	0.028227273	0.001217726	0.015618219	0.001217726	0.001217726	0.001217726	0.015618219	0.001217726	0.015083759	0.016226672	0.014364045
Comp Mole Frac (140-150F_3*)		0.00213754	0.023506887	0.00213754	0.037216057	0.00213754	0.023506887	0.00213754	0.00213754	0.00213754	0.023506887	0.00213754	0.022713785	0.024192743	0.021415706
Comp Mole Frac (150-160F_3*)		0.002647628	0.027728878	0.002647628	0.042863197	0.002647628	0.027728878	0.002647628	0.002647628	0.002647628	0.027728878	0.002647628	0.026798013	0.028475831	0.025207148
Comp Mole Frac (160-170F_3*)		0.003240192	0.028950695	0.003240192	0.041366026	0.003240192	0.028950695	0.003240192	0.003240192	0.003240192	0.028950695	0.003240192	0.027996475	0.029526569	0.026137273
Comp Mole Frac (170-180F_3*)		0.004331648	0.034679997	0.004331648	0.047390176	0.004331648	0.034679997	0.004331648	0.004331648	0.004331648	0.034679997	0.004331648	0.033553649	0.035228077	0.031184317
Comp Mole Frac (180-190F_3*)		0.006210117	0.044363382	0.006210117	0.057737715	0.006210117	0.044363382	0.006210117	0.006210117	0.006210117	0.044363382	0.006210117	0.042947362	0.044889107	0.039736377
Comp Mole Frac (190-200F_3*)		0.009428323	0.059177472	0.009428323	0.072184293	0.009428323	0.059177472	0.009428323	0.009428323	0.009428323	0.059177472	0.009428323	0.057331083	0.059627124	0.052782647
Comp Mole Frac (200-210F_3*)		0.013478078	0.077946791	0.013478078	0.091201601	0.013478078	0.077946791	0.013478078	0.013478078	0.013478078	0.077946791	0.013478078	0.0755541	0.078358136	0.069363563
Comp Mole Frac (210-220F_3*)		0.017455116	0.086010691	0.017455116	0.092033807	0.017455116	0.086010691	0.017455116	0.017455116	0.017455116	0.086010691	0.017455116	0.08346632	0.086136635	0.076249184
Comp Mole Frac (220-230F_3*)		0.018349475	0.086312829	0.018349475	0.089990428	0.018349475	0.086312829	0.018349475	0.018349475	0.018349475	0.086312829	0.018349475	0.083790438	0.086365665	0.076451925
Comp Mole Frac (230-240F_3*)		0.023140815	0.088423358	0.023140815	0.081742049	0.023140815	0.088423358	0.023140815	0.023140815	0.023140815	0.088423358	0.023140815	0.086000463	0.088255612	0.078124928
Comp Mole Frac (240-250F_3*)		0.023008122	0.084076644	0.023008122	0.075621164	0.023008122	0.084076644	0.023008122	0.023008122	0.023008122	0.084076644	0.023008122	0.081810147	0.083894091	0.074264057
Comp Mole Frac (250-260F_3*)		0.021344877	0.066276482	0.021344877	0.053927358	0.021344877	0.066276482	0.021344877	0.021344877	0.021344877	0.066276482	0.021344877	0.064608891	0.066121419	0.058531474
Comp Mole Frac (260-270F_3*)		0.021333208	0.061119602	0.021333208	0.047234142	0.021333208	0.061119602	0.021333208	0.021333208	0.021333208	0.061119602	0.021333208	0.060994297	0.060998042	0.0539962
Comp Mole Frac (270-280F_3*)		0.020655032	0.052040188	0.020655032	0.03703063	0.020655032	0.052040188	0.020655032	0.020655032	0.020655032	0.052040188	0.020655032	0.05087536	0.051995794	0.046027301
Comp Mole Frac (280-290F_3*)		0.018912204	0.042301568	0.018912204	0.027883421	0.018912204	0.042301568	0.018912204	0.018912204	0.018912204	0.042301568	0.018912204	0.041433496	0.042334858	0.037475325
Comp Mole Frac (290-300F_3*)		0.015401532	0.031340699	0.015401532	0.01943624	0.015401532	0.031340699	0.015401532	0.015401532	0.015401532	0.031340699	0.015401532	0.030749132	0.031418101	0.02781168
Comp Mole Frac (300-310F_3*)		0.012552201	0.021471801	0.012552201	0.011956882	0.012552201	0.021471801	0.012552201	0.012552201	0.012552201	0.021471801	0.012552201	0.021140759	0.021609437	0.019128933
Comp Mole Frac (310-320F_3*)		0.019804058	0.03230235	0.019804058	0.017464139	0.019804058	0.03230235	0.019804058	0.019804058	0.019804058	0.03230235	0.019804058	0.032550479	0.032814075	0.028814075
Comp Mole Frac (320-330F_3*)		0.015950143	0.020810432	0.015950143	0.009745017	0.015950143	0.020810432	0.015950143	0.015950143	0.015950143	0.020810432	0.015950143	0.020630047	0.021118748	0.01869457
Comp Mole Frac (330-340F_3*)		0.002459867	0.003072988	0.002459867	0.001399408	0.002459867	0.003072988	0.002459867	0.002459867	0.002459867	0.003072988	0.002459867	0.003050232	0.003123509	0.002764968
Comp Mole Frac (340-350F_3*)		0.000178738	0.000185629	0.000178738	7.51E-05	0.000178738	0.000185629	0.000178738	0.000178738	0.000178738	0.000185629	0.000178738	0.000185373	0.000190142	0.000168316
Comp Mole Frac (350-360F_3*)		3.24E-05	3.10E-05	3.24E-05	1.19E-05	3.24E-05	3.10E-05	3.24E-05	3.24E-05	3.24E-05	3.10E-05	3.24E-05	3.11E-05	3.19E-05	2.82E-05
Comp Mole Frac (360-370F_3*)		6.15E-08	5.18E-08	6.15E-08	1.67E-08	6.15E-08	5.18E-08	6.15E-08	6.15E-08	6.15E-08	5.18E-08	6.15E-08	5.22E-08	0	4.75E-08
Comp Mole Frac (370-380F_3*)		1.62E-07	1.11E-07	1.62E-07	3.25E-08	1.62E-07	1.11E-07	1.62E-07	1.62E-07	1.62E-07	1.11E-07	1.62E-07	1.13E-07	0	1.03E-07
Comp Mole Frac (380-390F_3*)		2.36E-07	1.50E-07	2.36E-07	4.22E-08	2.36E-07	1.50E-07	2.36E-07	2.36E-07	2.36E-07	1.50E-07	2.36E-07	1.53E-07	0	1.40E-07
Comp Mole Frac (390-400F_3*)		9.60E-07	4.89E-07	9.60E-07	1.25E-07	9.60E-07	4.89E-07	9.60E-07	9.60E-07	9.60E-07	4.89E-07	9.60E-07	5.07E-07	0	4.65E-07
Comp Mole Frac (400-410F_3*)		1.20E-06	5.71E-07	1.20E-06	1.39E-07	1.20E-06	5.71E-07	1.20E-06	1.20E-06	1.20E-06	5.71E-07	1.20E-06	5.94E-07	0	5.47E-07
Comp Mole Frac (410-420F_3*)		5.70E-06	2.19E-06	5.70E-06	4.86E-07	5.70E-06	2.19E-06	5.70E-06	5.70E-06	5.70E-06	2.19E-06	5.70E-06	2.32E-06	0	2.14E-06
Comp Mole Frac (420-430F_3*)		4.25E-05	1.28E-05	4.25E-05	2.52E-06	4.25E-05	1.28E-05	4.25E-05	4.25E-05	4.25E-05	1.28E-05	4.25E-05	1.39E-05	0	1.30E-05
Comp Mole Frac (430-440F_3*)		0.00018556	5.57E-05	0.00018556	1.09E-05	0.00018556	5.57E-05	0.00018556	0.00018556	0.00018556	5.57E-05	0.00018556	6.05E-05	0	5.62E-05
Comp Mole Frac (440-450F_3*)		0.000355564	8.69E-05	0.000355564	1.53E-05	0.000355564	8.69E-05	0.000355564	0.000355564	0.000355564	8.69E-05	0.000355564	9.69E-05	0	9.06E-05
Comp Mole Frac (450-460F_3*)		0.000608608	0.000133968	0.000608608	2.23E-05	0.000608608	0.000133968	0.000608608	0.000608608	0.000608608	0.000133968	0.000608608	0.000151584	0	0.000142272
Comp Mole Frac (460-470F_3*)		0.001207031	0.000213753	0.001207031	3.16E-05	0.001207031	0.000213753	0.001207031	0.001207031	0.001207031	0.000213753	0.001207031	0.000250618	0	0.000236897
Comp Mole Frac (470-480F_3*)		0.00165151	0.000264823	0.00165151	3.69E-05	0.00165151	0.000264823	0.00165151	0.00165151	0.00165151	0.000264823	0.00165151	0.000316288	0	0.000299979
Comp Mole Frac (480-490F_3*)		0.002900198	0.000372475	0.002900198	4.61E-05	0.002900198	0.000372475	0.002900198	0.002900198	0.002900198	0.000372475	0.002900198	0.000466289	0	0.000445505
Comp Mole Frac (490-500F_3*)		0.003228988	0.000398674	0.003228988	4.83E-05	0.003228988	0.000398674	0.003228988	0.003228988	0.003228988	0.000398674	0.003228988	0.000503718	0	0.000481891
Comp Mole Frac (500-510F_3*)		0.004982464	0.000487465	0.004982464	5.24E-05	0.004982464	0.000487465	0.004982464	0.004982464	0.004982464	0.000487465	0.004982464	0.000654292	0	0.000630503
Comp Mole Frac (510-520F_3*)		0.005552111	0.000477562	0.005552111	4.75E-05	0.005552111	0.000477562	0.005552111	0.005552111	0.005552111	0.000477562	0.005552111	0.000665898	0	0.000644154
Comp Mole Frac (520-530F_3*)		0.006846374	0.000482454	0.006846374	4.31E-05	0.006846374	0.000482454	0.006846374	0.006846374	0.006846374	0.000482454	0.006846374	0.000718644	0	0.000699058
Comp Mole Frac (530-540F_3*)		0.00699056	0.000428008	0.00699056	3.52E-05	0.00699056	0.000428008	0.00699056	0.00699056	0.00699056	0.000428008	0.00699056	0.00067157	0	0.000655613
Comp Mole Frac (540-550F_3*)		0.007016975	0.000354964	0.007016975	2.62E-05	0.007016975	0.000354964	0.007016975	0.007016975	0.007016975	0.000354964	0.007016975	0.000602217	0	0.00059045
Comp Mole Frac (550-560F_3*)		0.004970782	0.000222966	0.004970782	1.53E-05	0.004970782	0.000222966	0.004970782	0.004970782	0.004970782	0.000222966	0.004970782	0.000399176	0	0.000392327
Comp Mole Frac (560-570F_3*)		0.00367144	0.000132436	0.00367144	7.99E-06	0.00367144	0.000132436	0.00367144	0.00367144	0.00367144	0.000132436	0.00367144	0.000263783	0	0.00026025
Comp Mole Frac (570-580F_3*)		0.004176439	0.0001216	0.004176439	6.47E-06	0.004176439	0.0001216	0.004176439	0.004176439	0.004176439	0.0001216	0.004176439	0.000272091	0	0.000269272
Comp Mole Frac (580-590F_3*)		0.004316488	0.000118356	0.004316488	6.08E-06	0.004316488	0.000118356	0.004316488	0.004316488	0.004316488	0.000118356	0.004316488	0.000274166	0	0.00027153
Comp Mole Frac (590-600F_3*)		0.012956473	0.000276547	0.012956473	1.22E-05	0.012956473	0.000276547	0.012956473	0.012956473	0.012956473	0.000276547	0.012956473	0.000747149	0	0.000741964
Comp Mole Frac (600-610F_3*)		0.011262122	0.000219361	0.011262122	9.10E-06	0.011262122	0.000219361	0.011262122	0.011262122	0.011262122	0.000219361	0.011262122	0.000629202	0	0.00062535
Comp Mole Frac (610-620F_3*)		0.00310895	4.59E-05	0.00310895	1.60E-06	0.00310895	4.59E-05	0.00310895	0.00310895	0.00310895	4.59E-05	0.00310895	0.000159549	0	0.000158893
Comp Mole Frac (620-630F_3*)		0.002485451	3.27E-05	0.002485451	1.06E-06	0.002485451	3.27E-05	0.002485451	0.002485451	0.002485451	3.27E-05	0.002485451	0.000123696	0	0.000123269
Comp Mole Frac (630-650F_3*)		0.002698306	2.53E-05	0.002698306	6.69E-07	0.002698306	2.53E-05	0.002698306	0.002698306	0.002698306	2.53E-05	0.002698306	0.000124548	0	0.000124303
Comp Mole Frac (650-670F_3*)		0.002280423	1.39E-05	0.002280423	2.82E-07	0.002280423	1.39E-05	0.002280423	0.002280423	0.002280423	1.39E-05	0.002280423	9.80E-05	0	9.80E-05
Comp Mole Frac (670-690F_3*)		0.001984677	8.84E-06	0.001984677	1.47E-07	0.001984677	8.84E-06	0.001984677	0.001984677	0.001984677	8.84E-06	0.001984677	8.22E-05	0	8.22E-05
Comp Mole Frac (690-710F_3*)		0.001344223	3.68E-06	0.001344223	4.48E-08	0.001344223	3.68E-06	0.001344223	0.001344223	0.001344223	3.68E-06	0.001344223	5.34E-05	0	5.34E-05
Comp Mole Frac (710-730F_3*)		0.00200087	3.47E-06	0.00200087	3.16E-08	0.00200087	3.47E-06	0.00200087	0.00200087	0.00200087	3.47E-06	0.00200087	7.76E-05	0	7.76E-05
Comp Mole Frac (730-750F_3*)		0.004539165	5.06E-06	0.004539165	3.48E-08	0.004539165	5.06E-06	0.004539165	0.004539165	0.004539165	5.06E-06	0.004539165	0.00017334	0	0.00017346
Comp Mole Frac (750-770F_3*)		0.01194159	8.62E-06	0.01194159	4.50E-08	0.01194159	8.62E-06	0.01194159	0.01194159	0.01194159	8.62E-06	0.01194159	0.000451502	0	0.000451851
Comp Mole Frac (770-790F_3*)		0.015895041	7.05E-06	0.015895041	2.69E-08	0.015895041	7.05E-06	0.015895041	0.015895041	0.015895041	7.05E-06	0.015895041	0.000596713	0	0.000597203
Comp Mole Frac (790-810F_3*)		0.018209576	4.98E-06	0.018209576	1.39E-08	0.018209576	4.98E-06	0.018209576	0.018209576	0.018209576	4.98E-06	0.018209576	0.000680622	0	0.000681199
Comp Mole Frac (810-830F_3*)		0.02011733	3.35E-06	0.02011733	6.77E-09	0.02011733	3.35E-06	0.02011733	0.02011733	0.02011733	3.35E-06	0.02011733	0.000749857	0	0.000750503
Comp Mole Frac (830-850F_3*)		0.020931056	2.11E-06	0.020931056	3.09E-09	0.020931056	2.11E-06	0.020931056	0.020931056	0.020931056	2.11E-06	0.020931056	0.00077887	0	0.000779547
Comp Mole Frac (850-870F_3*)		0.020281268	1.08E-06	0.020281268	1.04E-09	0.020281268	1.08E-06	0.020281268	0.020281268	0.020281268	1.08E-06	0.020281268	0.000753757	0	0.000754416
Comp Mole Frac (870-890F_3*)		0.019957261	6.96E-07	0.019957261	5.09E-10	0.019957261	6.96E-07	0.019957261	0.019957261	0.019957261	6.96E-07	0.019957261	0.000741364	0	0.000742013
Comp Mole Frac (890-910F_3*)		0.020481275	3.72E-07	0.020481275	1.79E-10	0.020481275	3.72E-07	0.020481275	0.020481275	0.020481275	3.72E-07	0.020481275	0.0007605	0	0.000761167
Comp Mole Frac (910-930F_3*)		0.020705608	2.36E-07	0.020705608	8.45E-11	0.020705608	2.36E-07	0.020705608	0.020705608	0.020705608	2.36E-07	0.020705608	0.000768695	0	0.000769369
Comp Mole Frac (930-950F_3*)		0.021151977	1.12E-07	0.021151977	2.50E-11	0.021151977	1.12E-07	0.021151977	0.021151977	0.021151977	1.12E-07	0.021151977	0.000785143	0	0.000785831
Comp Mole Frac (950-970F_3*)		0.021138107	9.13E-08	0.021138107	1.78E-11	0.021138107	9.13E-08	0.021138107	0.021138107	0.021138107	9.13E-08	0.021138107	0.000784607	0	0.000785296
Comp Mole Frac (970-990F_3*)		0.020567677	4.02E-08	0.020567677	4.81E-12	0.020567677	4.02E-08	0.020567677	0.020567677	0.020567677	4.02E-08	0.020567677	0.000763387	0	0.000764057
Comp Mole Frac (990-1010F_3*)		0.020361396	2.37E-08	0.020361396	2.05E-12	0.020361396	2.37E-08	0.020361396	0.020361396	0.020361396	2.37E-08	0.020361396	0.000755716	0	0.000756379
Comp Mole Frac (1010-1030F_3*)		0.019879028	1.11E-08	0.019879028	6.09E-13	0.019879028	1.11E-08	0.019879028	0.019879028	0.019879028	1.11E-08	0.019879028	0.000737801	0	0.000738448
Comp Mole Frac (1030-1050F_3*)		0.019408789	5.74E-09	0.019408789	2.12E-13	0.019408789	5.74E-09	0.019408789	0.019408789	0.019408789	5.74E-09	0.019408789	0.000720343	0	0.000720975
Comp Mole Frac (1050-1070F_3*)		0.01893827	2.87E-09	0.01893827	6.98E-14	0.01893827	2.87E-09	0.01893827	0.01893827	0.01893827	2.87E-09	0.01893827	0.000702878	0	0.000703494
Comp Mole Frac (1070-1090F_3*)		0.018081781	1.27E-09	0.018081781	1.94E-14	0.018081781	1.27E-09	0.018081781	0.018081781	0.018081781	1.27E-09	0.018081781	0.000671088	0	0.000671677
Comp Mole Frac (1090-1110F_3*)		0.017714569	6.87E-10	0.017714569	7.23E-15	0.017714569	6.87E-10	0.017714569	0.017714569	0.017714569	6.87E-10	0.017714569	0.000657459	0	0.000658036
Comp Mole Frac (1110-1130F_3*)		0.016253978	2.21E-10	0.016253978	1.25E-15	0.016253978	2.21E-10	0.016253978	0.016253978	0.016253978	2.21E-10	0.016253978	0.00060325	0	0.000603779
Comp Mole Frac (1130-1150F_3*)		0.01609159	1.53E-10	0.01609159	6.93E-16	0.01609159	1.53E-10	0.01609159	0.01609159	0.01609159	1.53E-10	0.01609159	0.000597223	0	0.000597747
Comp Mole Frac (1150-1170F_3*)		0.014750182	6.28E-11	0.014750182	1.75E-16	0.014750182	6.28E-11	0.014750182	0.014750182	0.014750182	6.28E-11	0.014750182	0.000547438	0	0.000547918
Comp Mole Frac (1170-1190F_3*)		0.014027958	3.15E-11	0.014027958	5.98E-17	0.014027958	3.15E-11	0.014027958	0.014027958	0.014027958	3.15E-11	0.014027958	0.000520634	0	0.00052109
Comp Mole Frac (1190-1210F_3*)		0.013160079	1.63E-11	0.013160079	2.19E-17	0.013160079	1.63E-11	0.013160079	0.013160079	0.013160079	1.63E-11	0.013160079	0.000488423	0	0.000488852
Comp Mole Frac (1210-1230F_3*)		0.011858434	6.01E-12	0.011858434	4.74E-18	0.011858434	6.01E-12	0.011858434	0.011858434	0.011858434	6.01E-12	0.011858434	0.000440114	0	0.0004405
Comp Mole Frac (1230-1250F_3*)		0.011537346	3.92E-12	0.011537346	2.44E-18	0.011537346	3.92E-12	0.011537346	0.011537346	0.011537346	3.92E-12	0.011537346	0.000428197	0	0.000428573
Comp Mole Frac (1250-1270F_3*)		0.009718251	1.07E-12	0.009718251	3.49E-19	0.009718251	1.07E-12	0.009718251	0.009718251	0.009718251	1.07E-12	0.009718251	0.000360683	0	0.000361
Comp Mole Frac (1270-1290F_3*)		0.009718198	4.78E-13	0.009718198	9.53E-20	0.009718198	4.78E-13	0.009718198	0.009718198	0.009718198	4.78E-13	0.009718198	0.000360681	0	0.000360998
Comp Mole Frac (1290-1310F_3*)		0.007886435	1.26E-13	0.007886435	1.33E-20	0.007886435	1.26E-13	0.007886435	0.007886435	0.007886435	1.26E-13	0.007886435	0.000292697	0	0.000292954
Comp Mole Frac (1310-1330F_3*)		0.007682856	7.93E-14	0.007682856	6.49E-21	0.007682856	7.93E-14	0.007682856	0.007682856	0.007682856	7.93E-14	0.007682856	0.000285141	0	0.000285392
Comp Mole Frac (1330-1350F_3*)		0.006508007	2.93E-14	0.006508007	1.51E-21	0.006508007	2.93E-14	0.006508007	0.006508007	0.006508007	2.93E-14	0.006508007	0.000241538	0	0.00024175
Comp Mole Frac (1350-1370F_3*)		0.005875425	1.24E-14	0.005875425	4.19E-22	0.005875425	1.24E-14	0.005875425	0.005875425	0.005875425	1.24E-14	0.005875425	0.00021806	0	0.000218252
Comp Mole Frac (1370-1390F_3*)		0.005275212	6.13E-15	0.005275212	1.47E-22	0.005275212	6.13E-15	0.005275212	0.005275212	0.005275212	6.13E-15	0.005275212	0.000195784	0	0.000195956
Comp Mole Frac (1390-1410F_3*)		0.004374877	1.78E-15	0.004374877	2.38E-23	0.004374877	1.78E-15	0.004374877	0.004374877	0.004374877	1.78E-15	0.004374877	0.000162369	0	0.000162512
Comp Mole Frac (1410-1430F_3*)		0.004194721	1.12E-15	0.004194721	1.18E-23	0.004194721	1.12E-15	0.004194721	0.004194721	0.004194721	1.12E-15	0.004194721	0.000155683	0	0.000155819
Comp Mole Frac (1430-1450F_3*)		0.003173829	2.32E-16	0.003173829	1.18E-24	0.003173829	2.32E-16	0.003173829	0.003173829	0.003173829	2.32E-16	0.003173829	0.000117793	0	0.000117897
Comp Mole Frac (1450-1470F_3*)		0.003173864	9.33E-17	0.003173864	2.82E-25	0.003173864	9.33E-17	0.003173864	0.003173864	0.003173864	9.33E-17	0.003173864	0.000117795	0	0.000117898
Comp Mole Frac (1470-1490F_3*)		0.00233744	1.89E-17	0.00233744	2.76E-26	0.00233744	1.89E-17	0.00233744	0.00233744	0.00233744	1.89E-17	0.00233744	8.68E-05	0	8.68E-05
Comp Mole Frac (1490-1510F_3*)		0.002244512	1.06E-17	0.002244512	1.15E-26	0.002244512	1.06E-17	0.002244512	0.002244512	0.002244512	1.06E-17	0.002244512	8.33E-05	0	8.34E-05
Comp Mole Frac (1510-1530F_1*)		0.001790401	3.29E-18	0.001790401	2.09E-27	0.001790401	3.29E-18	0.001790401	0.001790401	0.001790401	3.29E-18	0.001790401	6.64E-05	0	6.65E-05
Comp Mole Frac (1530-1550F_1*)		0.001545879	1.09E-18	0.001545879	4.04E-28	0.001545879	1.09E-18	0.001545879	0.001545879	0.001545879	1.09E-18	0.001545879	5.74E-05	0	5.74E-05
Comp Mole Frac (1550-1570F_1*)		0.001343028	4.84E-19	0.001343028	1.23E-28	0.001343028	4.84E-19	0.001343028	0.001343028	0.001343028	4.84E-19	0.001343028	4.98E-05	0	4.99E-05
Comp Mole Frac (1570-1590F_1*)		0.001038716	1.01E-19	0.001038716	1.23E-29	0.001038716	1.01E-19	0.001038716	0.001038716	0.001038716	1.01E-19	0.001038716	3.86E-05	0	3.86E-05
Comp Mole Frac (1590-1610F_1*)		0.000984964	5.97E-20	0.000984964	5.61E-30	0.000984964	5.97E-20	0.000984964	0.000984964	0.000984964	5.97E-20	0.000984964	3.66E-05	0	3.66E-05
Comp Mole Frac (1610-1630F_1*)		0.000680368	8.35E-21	0.000680368	3.20E-31	0.000680368	8.35E-21	0.000680368	0.000680368	0.000680368	8.35E-21	0.000680368	2.53E-05	0	2.53E-05
Comp Mole Frac (1630-1650F_1*)		0.000680375	3.01E-21	0.000680375	6.62E-32	0.000680375	3.01E-21	0.000680375	0.000680375	0.000680375	3.01E-21	0.000680375	2.53E-05	0	2.53E-05
Comp Mole Frac (1650-1670F_1*)		0.001127205	8.78E-22	0.001127205	7.33E-33	0.001127205	8.78E-22	0.001127205	0.001127205	0.001127205	8.78E-22	0.001127205	4.18E-05	0	4.19E-05
Comp Mole Frac (1670-1690F_1*)		0.001176852	5.98E-22	0.001176852	3.96E-33	0.001176852	5.98E-22	0.001176852	0.001176852	0.001176852	5.98E-22	0.001176852	4.37E-05	0	4.37E-05
Comp Mole Frac (1690-1710F_1*)		0.00042536	2.65E-22	0.00042536	1.95E-33	0.00042536	2.65E-22	0.00042536	0.00042536	0.00042536	2.65E-22	0.00042536	1.58E-05	0	1.58E-05
Comp Mole Frac (1710-1730F_1*)		2.07E-05	1.12E-24	2.07E-05	2.17E-36	2.07E-05	1.12E-24	2.07E-05	2.07E-05	2.07E-05	1.12E-24	2.07E-05	7.69E-07	0	7.69E-07
Comp Mole Frac (1730-1750F_1*)		1.24E-05	6.91E-25	1.24E-05	1.35E-36	1.24E-05	6.91E-25	1.24E-05	1.24E-05	1.24E-05	6.91E-25	1.24E-05	4.61E-07	0	4.62E-07
Comp Mole Frac (Solid20000*)		0.096412518	0	0.096412518	0	0.096412518	0	0.096412518	0.096412518	0.096412518	0	0.096412518	0.003578253	0	0.086763776

Aspen HYSYS Heat & Material Balance Energy Streams	*Unit*	Q-100	Q-101	Q-106	Q-110	Q-132	Q-133	Q-124
Heat Flow	*Btu/hr*	-463011	17049	5733	-435446	146160	9142	7144

	Unit	Q-102	Q-105	Q-111	Q-103	Q-104	Q-107	Heater Duty
Heat Flow	*Btu/hr*	10481467	15110	38311	1194	0	465135	16985147